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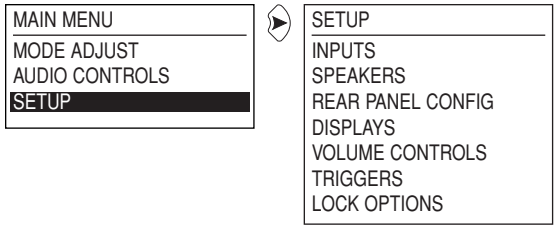


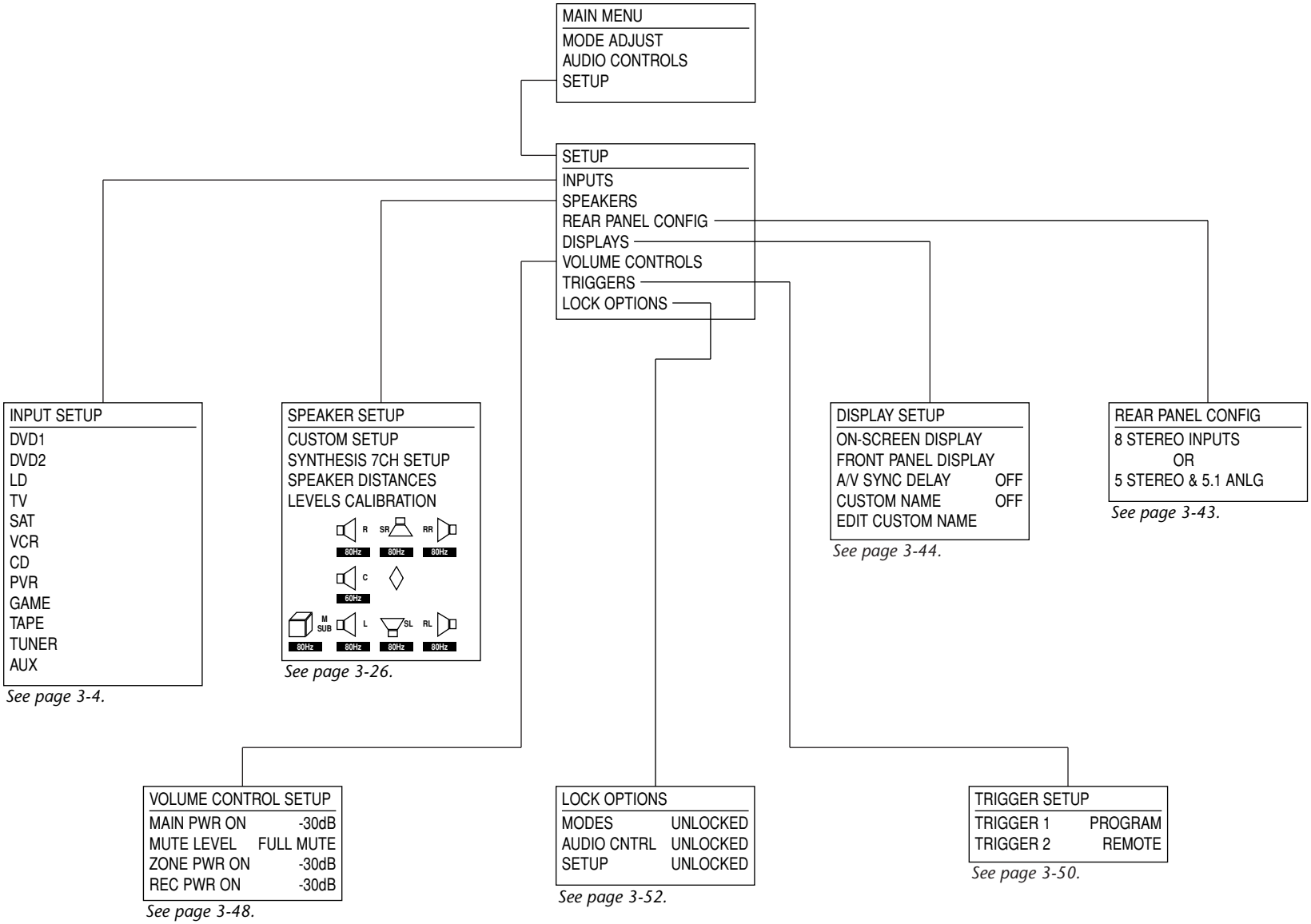
SETUP

Selecting the SETUP option on the MAIN MENU accesses the SETUP menu, which contains options that can be used to access setup submenus shown on the next page. The table shown in the next column describes these options.

When the MAIN command bank is active, the following remote control commands can be used to select options on the SETUP menu:

- Press the up and down MENU arrows to scroll upward and downward through the complete list of options.
- Press the right MENU arrow to select the highlighted option.
- Press the left MENU arrow to exit the SETUP menu and return to the MAIN MENU.
- See the Menu Navigation section that begins on page 2-7 for more information.

SETUP Menu Options	
INPUTS	Prompts the selection of the desired input (e.g. DVD1). Selecting a specific input accesses the corresponding INPUT SETUP menu, which contains options and parameters that can be used to configure the selected input.
SPEAKERS	Accesses the SPEAKER SETUP menu, which contains options that can be used to configure the MAIN AUDIO OUTPUTS.
REAR PANEL CONFIG	Accesses the REAR PANEL CONFIG menu, which contains options that can be used to configure the function of analog input pairs 6, 7, and 8 on the rear panel.
DISPLAYS	Accesses the DISPLAY SETUP menu, which contains options and parameters that can be used to adjust the on-screen and front panel displays, audio-video synchronization, and custom unit name.
VOLUME CONTROLS	Accesses the VOLUME CONTROL SETUP menu, which contains parameters that can be used to adjust volume setup in the Main Zone, Zone 2, and the Record Zone.
TRIGGERS	Accesses the TRIGGER SETUP menu, which contains options that can be used to configure the TRIGGER OUTPUTS on the rear panel.
LOCK OPTIONS	Accesses the LOCK OPTIONS menu, which contains parameters that can be used to lock and unlock the settings of the MODE ADJUST, AUDIO CONTROLS, and SETUP menu branches.


MAIN MENU
MODE ADJUST
AUDIO CONTROLS
SETUP
SETUP
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TRIGGER SETUP
TRIGGER 1 PROGRAM
TRIGGER 2 REMOTE
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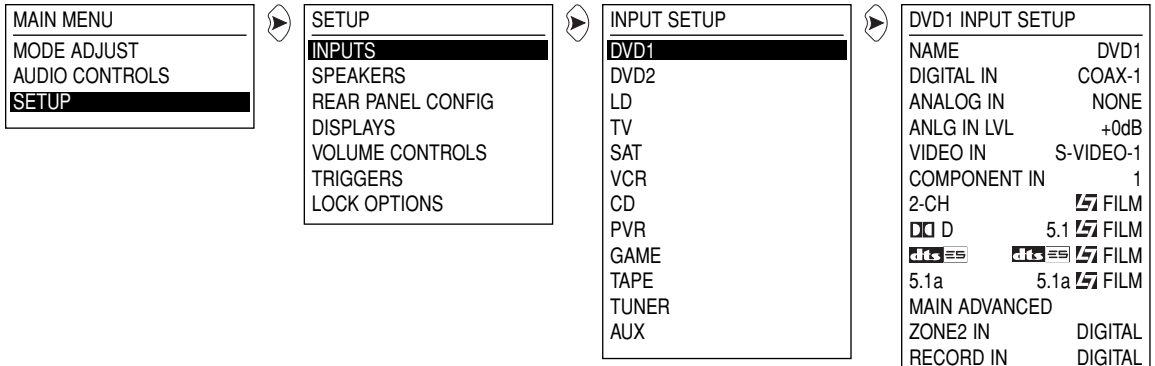


Selecting the INPUTS option prompts the selection of the desired input.

Selecting an input accesses the corresponding INPUT SETUP menu.

The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

INPUTS

SETUP ➤ **INPUTS**

Selecting the INPUTS option on the SETUP menu prompts the selection of the desired input (e.g. DVD1). The unit has 12 inputs, each of which can be associated with its 13 digital audio, 8 analog audio, and 17 video inputs. Selecting an input accesses the corresponding INPUT SETUP menu.

The DVD1 INPUT SETUP menu is shown above as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of the INPUT SETUP menu are identical regardless of which input is selected. The values on the right side are adjustable. (See page A-# for illustrations of other INPUT SETUP menus.)

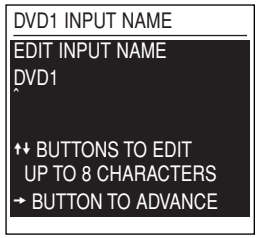
NAME

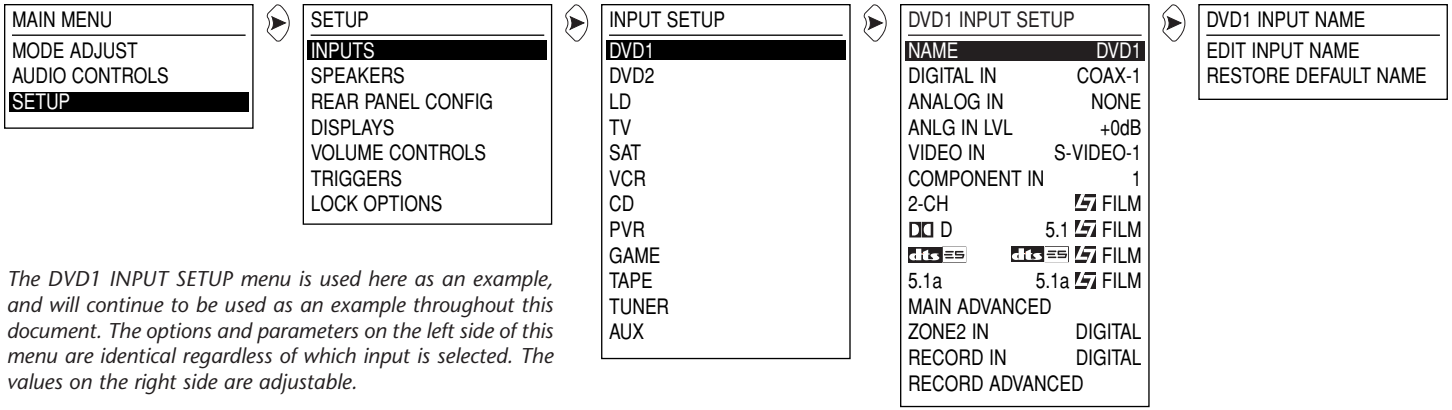
SETUP ➤ **INPUTS** ➤ **DVD1** ➤ **NAME**

Selecting the NAME parameter accesses the INPUT NAME menu, which contains options that can be used to customize or to restore the factory-default name of the selected input.

EDIT INPUT NAME

Selecting the EDIT INPUT NAME option accesses the pulldown menu shown at the right, which can be used to customize the name of the selected input. The name of the selected input appears on the second line of the pulldown menu, beneath the EDIT INPUT NAME header.





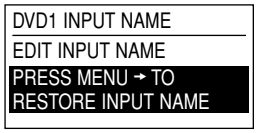
The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

When the pulldown menu appears, press the up and down MENU arrows on the remote control to change the character above the ^, and the right MENU arrow to advance to the next character. The ^ will automatically wrap to the first character space after the eighth character space is passed.

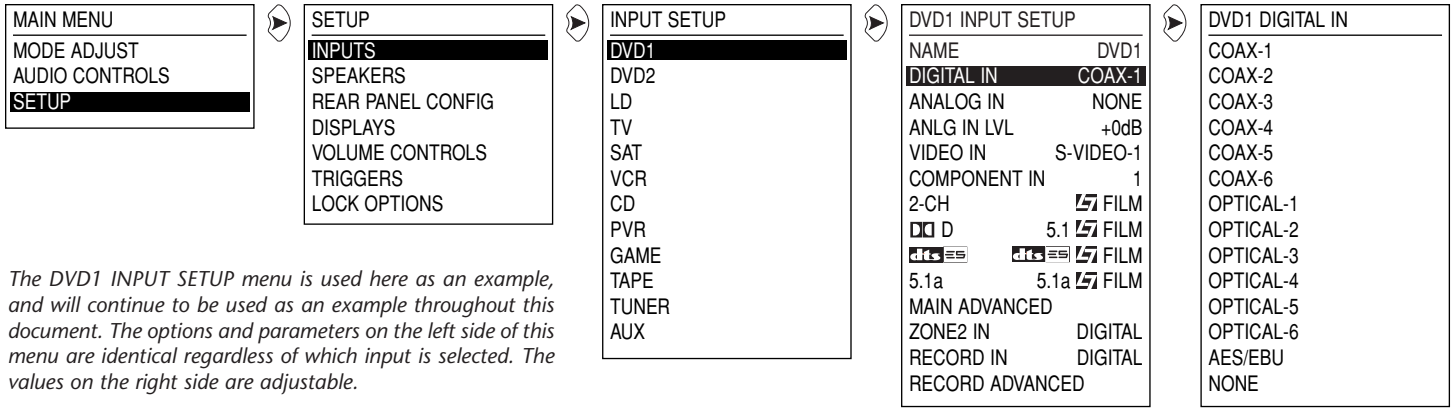
When the desired name has been entered, press the left MENU arrow to close the pulldown menu. The custom input name will appear on the on-screen and front panel displays. Both the custom and factory-default names will appear on the INPUT SETUP menu that appears when the INPUTS option is selected (shown above, third menu from the left). The custom name will appear against the left margin, and the factory-default name will appear in parenthesis against the right margin.

RESTORE DEFAULT NAME



Selecting the RESTORE DEFAULT NAME option accesses the pulldown menu shown above, which can be used to restore the factory default name of the selected input. Factory-default input names appear on the front panel and remote control (e.g. DVD1).

When the pulldown menu appears, press the right MENU arrow on the remote control to restore the factory-default name of the selected input. (Press the left MENU arrow to close the pulldown menu without restoring the factory-default name of the selected input.)



The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

DIGITAL IN

SETUP ▶ INPUTS ▶ DVD1 ▶ DIGITAL IN

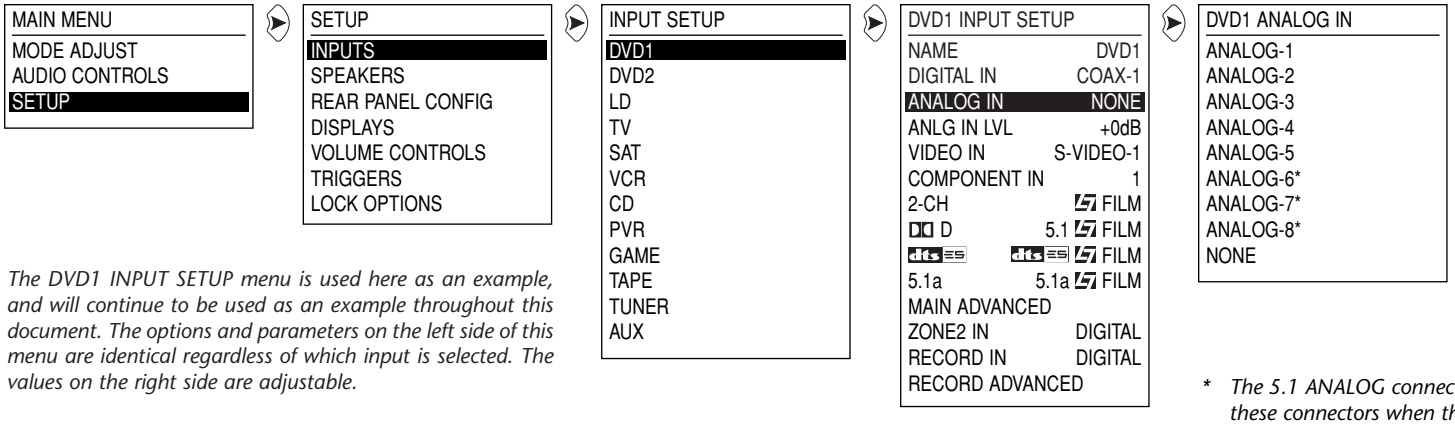
Selecting the DIGITAL IN parameter accesses the DIGITAL IN menu, which can be used to assign the digital input connector for the selected input.

The DIGITAL IN connector will take precedence over the ANALOG IN connector unless:

- No valid digital input signal is present.
- The DIGITAL IN parameter is set to NONE.
- The INPUT SELECT parameter on the MAIN ADV menu is set to ANALOG.

Note:

When no DIGITAL IN connector is selected, the unit will automatically set the INPUT SELECT parameter to ANALOG. When both DIGITAL IN and ANALOG IN connectors are selected, the unit will automatically set the INPUT SELECT, ZONE2 IN, and RECORD IN parameters to AUTO. The INPUT SELECT parameter is located on the MAIN ADV menu, and the ZONE2 IN and RECORD IN parameters are located on the INPUT SETUP menu.



The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

* *The 5.1 ANALOG connector will appear in place of these connectors when the 5 STEREO & 5.1 ANLG option is selected on the REAR PANEL CONFIG menu.*

ANALOG IN

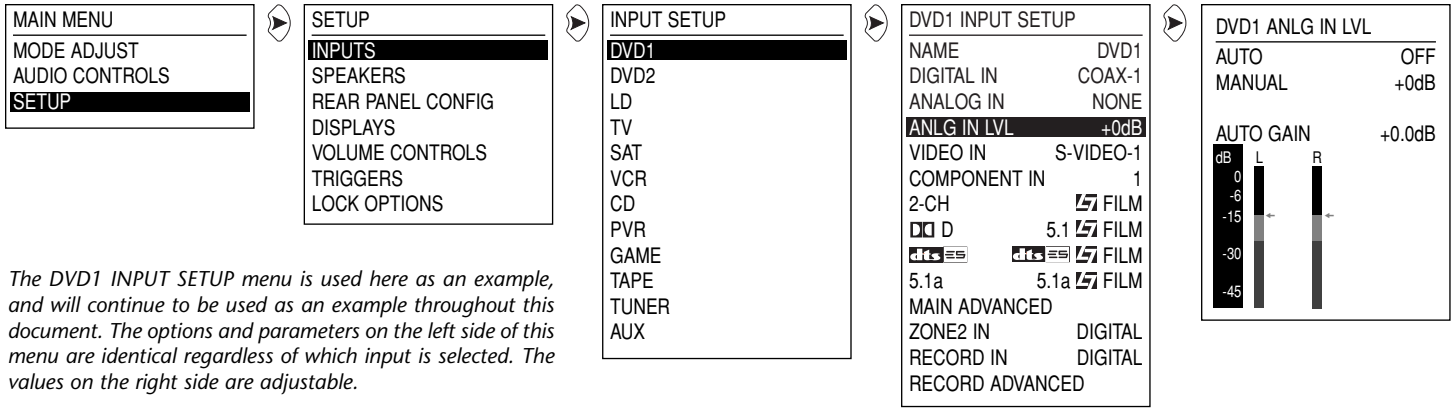
SETUP ➤ **INPUTS** ➤ **DVD1** ➤ **ANALOG IN**

Selecting the ANALOG IN parameter accesses the ANALOG IN menu, which can be used to assign the analog input connector for the selected input.

The connectors that appear on the ANALOG IN menu depend on the selected rear panel configuration. When the 8 STEREO INPUTS option is selected on the REAR PANEL CONFIG menu, these connectors will appear as shown above. When the 5 STEREO & 5.1 ANLG option is selected on the REAR PANEL CONFIG menu, the 5.1 ANALOG connector will appear in place of the ANALOG-6, ANALOG-7, and ANALOG-8 connectors.

Note:

When no ANALOG IN connector is selected, the unit will automatically set the INPUT SELECT parameter to DIGITAL. When both DIGITAL IN and ANALOG IN connectors are selected, the unit will automatically set the INPUT SELECT, ZONE2 IN, and RECORD IN parameters to AUTO. The INPUT SELECT parameter is located on the MAIN ADV menu, and the ZONE2 IN and RECORD IN parameters are located on the INPUT SETUP menu.



The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

ANLG IN LVL

SETUP ▶ INPUTS ▶ DVD1 ▶ ANALOG IN LVL

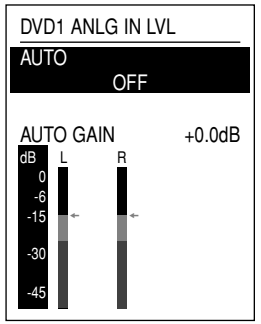
Selecting the ANLG IN LVL option accesses the ANLG IN LVL menu, which contains parameters that can be used to adjust analog input levels. Despite industry attempts at standardization, analog input sources have a wide range of output levels. To compensate for this, each of the unit's eight analog inputs can be assigned a different analog input level. This assures optimum performance regardless of the input source.

Parameter	Default Value	Values
AUTO	ON	ON, OFF
MANUAL	+0dB	-18 to +12dB
AUTO GAIN	N/A	N/A

AUTO

(ON, OFF)

Provides automatic control of analog input levels. Selecting the AUTO parameter accesses the pulldown menu shown at the right. When the pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the ON and OFF settings. Press the left menu arrow to exit the pulldown menu and accept the current setting.



When set to ON . . .

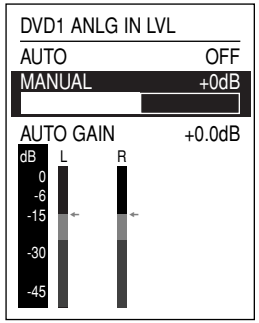
- The unit monitors and automatically optimizes analog input levels.
- When the input signal is too high, the unit quickly decreases analog input levels to avoid overload.
- When the input signal is too low, the unit slowly increases analog input levels to maximize the signal-to-noise ratio and dynamic range.
- The unit will not make adjustments that exceed the MANUAL parameter setting.

When set to OFF. . .

- Analog input levels can be adjusted manually.
- The unit will automatically set the AUTO parameter to OFF when manual adjustments are made.

MANUAL

(-18 to +12dB)



Provides manual control of analog input levels in the Main Zone. Selecting the MANUAL parameter accesses the horizontal bar graph shown at the right, which illustrates the position at which the current setting falls within the –18 to +12dB parameter range. When the graph appears, press the up and down MENU arrows on the remote control to increase and decrease the setting in 1dB increments. Press the left MENU arrow to close the graph and return to the ANLG IN LVL menu.

AUTO GAIN

Indicates the current amount of adjustment applied to analog input levels in the Main Zone. When the AUTO parameter is selected, the AUTO GAIN parameter indicates the amount of automatic adjustment applied to analog input levels. When the MANUAL parameter is selected, the AUTO GAIN parameter will continue to indicate the amount of automatic adjustment applied to analog input levels until manual adjustments are made. Then, the AUTO GAIN parameter setting will match the MANUAL parameter setting, indicating the amount of manual adjustment applied to analog input levels. (The AUTO GAIN parameter cannot be adjusted.)

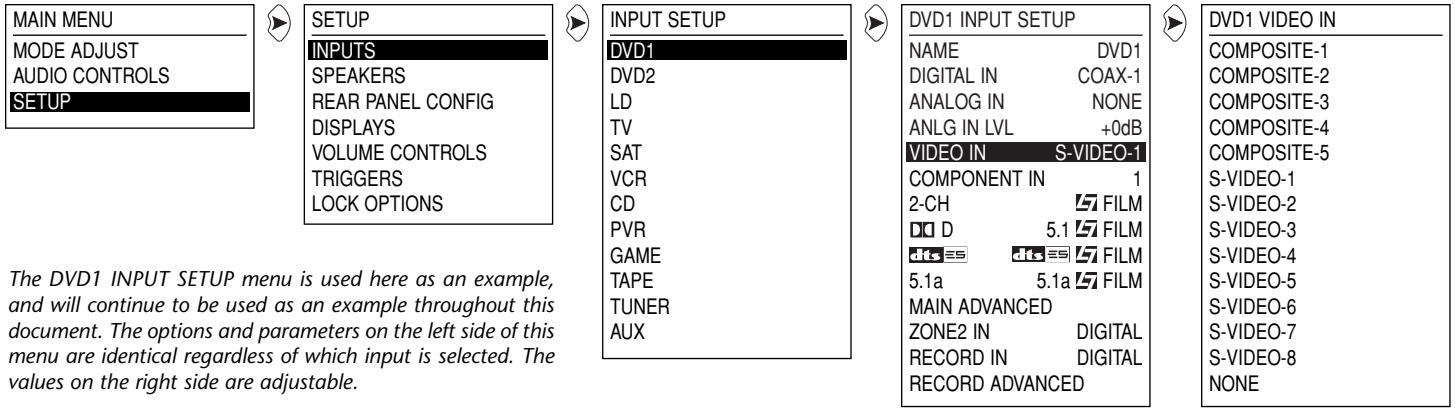
Level Meters

The ANLG IN LVL menu contains two level meters, which indicate fluctuating input levels in the left (L) and right (R) channels. These level meters indicate signal levels for the selected input, whether an analog or digital input source is present. For instance, the level meters will indicate digital input signal levels when a digital input source is present.

These level meters appear in combinations of green, yellow, and red when the on-screen display has a blue-screen background. Green indicates low input levels, yellow indicates normal input levels, and red indicates the onset of overload.

Note:

The ANLG IN LVL menu level meters might not indicate accurate input levels when a 5.1-channel analog input source is present and the ANALOG BYPASS parameter on the MAIN ADV menu is set to ON.



The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

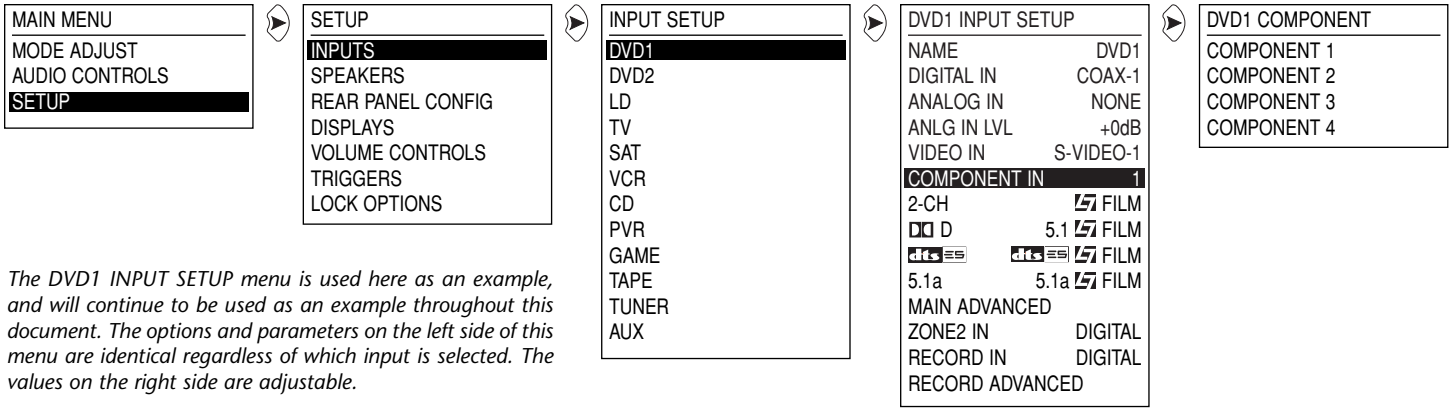
Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

VIDEO IN

SETUP ▶ **INPUTS** ▶ **DVD1** ▶ **VIDEO IN**

Selecting the VIDEO IN parameter accesses the VIDEO IN menu, which can be used to assign a composite video or S-video connector for the selected input.

> ***Note:***
>
> *Composite video outputs are available for use with composite or S-video inputs. S-video outputs are only available for use with S-video inputs. Output 1 (OSD) incorporates the on-screen display. Output 2 does not incorporate the on-screen display.*



The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

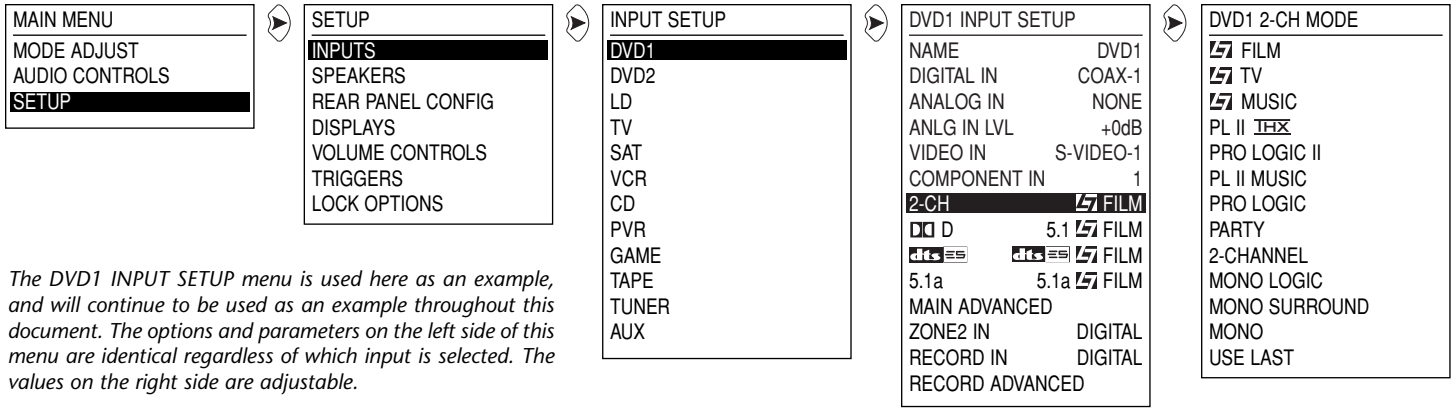
Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

COMPONENT IN

SETUP ➤ **INPUTS** ➤ **DVD1** ➤ **COMPONENT IN**

Selecting the COMPONENT IN parameter accesses the COMPONENT menu, which can be used to assign a component video connector for the selected input.

> ***Note:***
>
> *The component video output is only available for use with component video inputs.*



The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

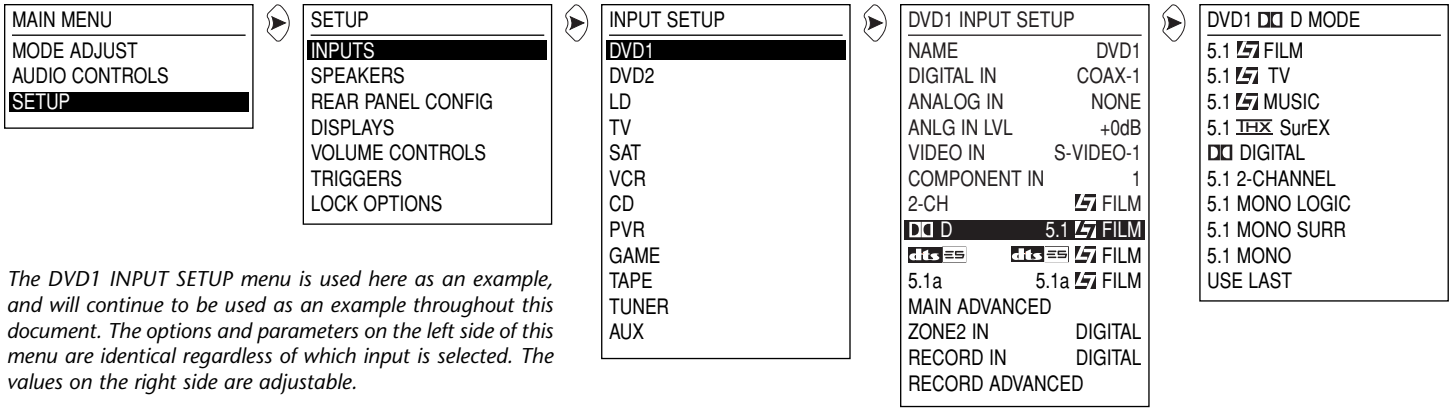
2-CH

SETUP ▶ INPUTS ▶ DVD1 ▶ 2-CH

Selecting the 2-CH parameter accesses the 2-CH MODE menu, which can be used to select a preferred listening mode for 2-channel input sources sent to the selected input. When set to USE LAST, the unit will revert to the previously-selected listening mode when the input is deselected, then reselected.

Note:

When the 2-CH parameter is set to USE LAST and the 2-CHANNEL listening mode is selected with the 2CH button on the remote control, the unit will revert to the listening mode that was selected prior to the 2-CHANNEL listening mode when the input is deselected, then reselected.



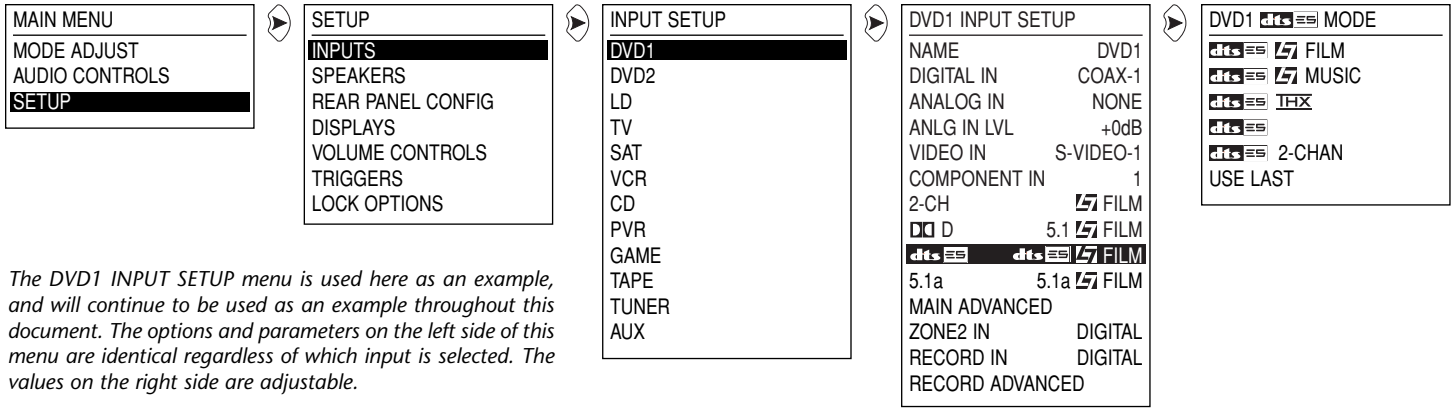
The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

DOLBY D

SETUP ➤ INPUTS ➤ DVD1 ➤ D

Selecting the DOLBY D parameter accesses the DOLBY D MODE menu, which can be used to select a preferred listening mode for Dolby Digital input sources sent to the selected input. When set to USE LAST, the unit will revert to the previously-selected listening mode when the input is deselected, then reselected.



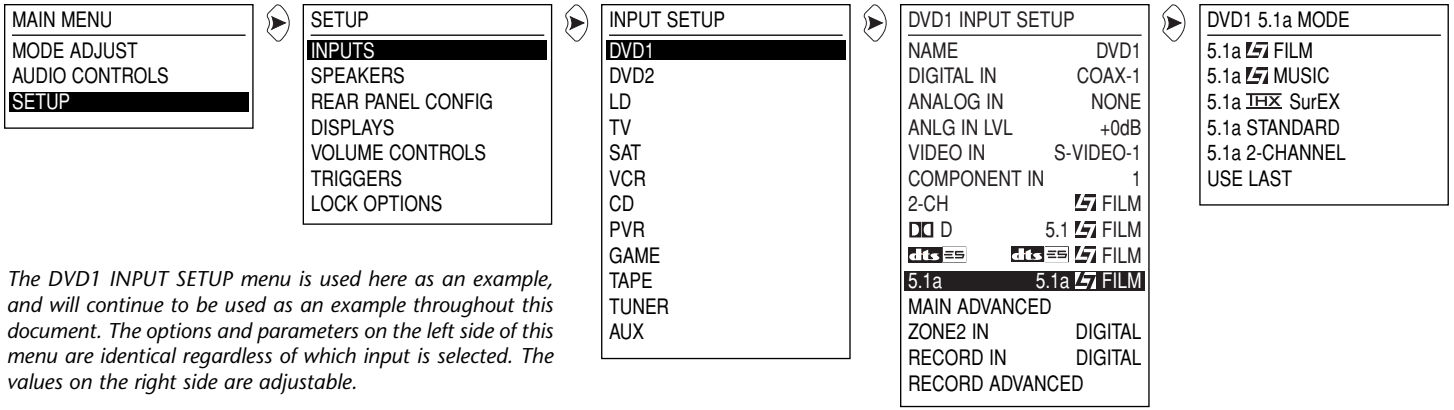
The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

dts(-ES)

SETUP ▶ **INPUTS** ▶ **DVD1** ▶ **dts-ES**

Selecting the dts(-ES) parameter accesses the dts(-ES) MODE menu, which can be used to select a preferred listening mode for dts(-ES) input sources sent to the selected input. When set to USE LAST, the unit will revert to the previously-selected listening mode when the input is deselected, then reselected.



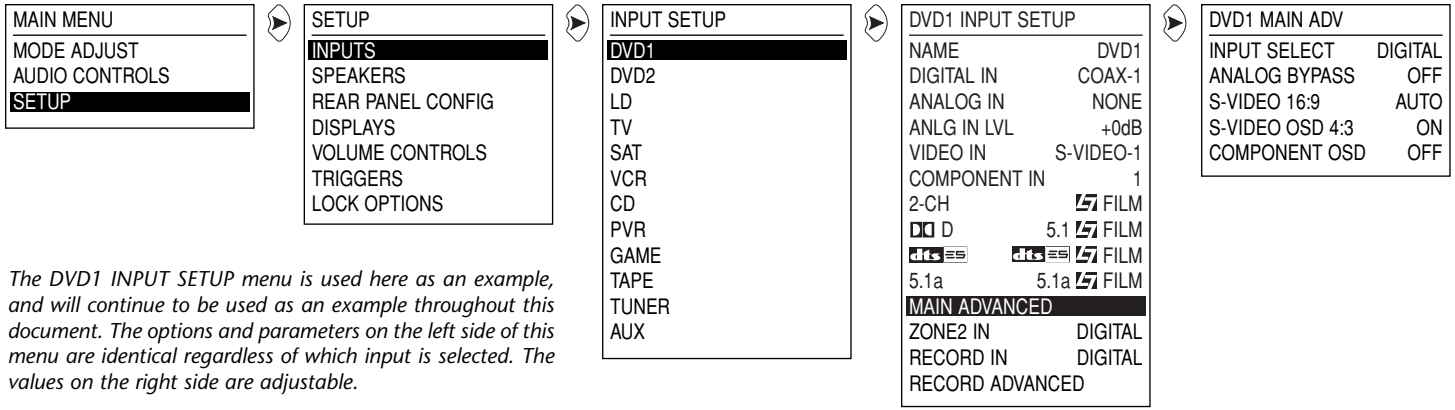
The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

5.1a

SETUP ➤ **INPUTS** ➤ **DVD1** ➤ **5.1a**

Selecting the 5.1a parameter accesses the 5.1a MODE menu, which can be used to select a preferred listening mode for 5.1-channel analog input sources sent to the selected input. When set to USE LAST, the unit will revert to the previously-selected listening mode when the input is deselected, then reselected.



The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

MAIN ADVANCED

SETUP ▶ INPUTS ▶ DVD1 ▶ MAIN ADVANCED

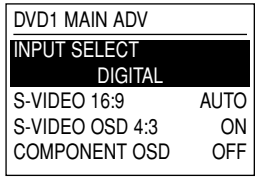
Selecting the MAIN ADVANCED option accesses the MAIN ADV menu, which can be used to configure advanced settings for the Main Zone.

Parameter	Default Value	Values
INPUT SELECT	DIGITAL	AUTO, ANALOG, DIGITAL
ANALOG BYPASS	OFF	ON, OFF
S-VIDEO 16:9	AUTO	AUTO, OFF
S-VIDEO 4:3 OSD	ON	ON, OFF
COMPONENT OSD	OFF	ON, OFF

INPUT SELECT (AUTO, ANALOG, DIGITAL)

Controls the interaction of the analog and digital input connectors assigned for the selected input. The INPUT SETUP menu allows the selection of two audio connectors, one analog (ANALOG IN) and one digital (DIGITAL IN).

Selecting the INPUT SELECT parameter accesses the pulldown menu shown at the right. When the pulldown menu appears, press the up and down MENU arrows on the remote control to scroll through the AUTO, ANALOG, and DIGITAL settings. Press the left menu arrow to exit the pulldown menu and accept the current setting.



When set to AUTO . . .

- The unit will automatically switch between the input source using the DIGITAL IN connector and the input source using the ANALOG IN connector.
- The input source using the DIGITAL IN connector will be sent to the MAIN AUDIO OUTPUTS when a valid digital audio input signal is present.
- The input source using the ANALOG IN connector will be sent to the MAIN AUDIO OUTPUTS when an invalid digital audio input signal is present.
- The unit will automatically set the INPUT SELECT parameter to AUTO when both DIGITAL IN and ANALOG IN connectors are selected.
- It is recommended to set the INPUT SELECT parameter to AUTO for input sources, such as laser disc players, that generate both analog and digital input signals.

Note:

When the INPUT SELECT parameter is set to AUTO, the unit will not switch to the ANALOG IN connector when:

- *An MPEG input source is present. The unit does not decode MPEG-encoded input signals.*
- *An input source that generates valid digital audio input signals is present. Some valid digital audio input signals remain active even when no audio is present in the input signal. For these input sources, it is recommended to configure two different inputs – one for digital audio input signals, and one for analog audio input signals.*

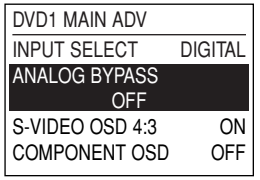
When set to ANALOG . . .

- The input source using the ANALOG IN connector will be sent to the MAIN AUDIO OUTPUTS. The input source using the DIGITAL IN connector will be ignored.
- The unit will automatically set the INPUT SELECT parameter to ANALOG when no DIGITAL IN connector is selected.

When set to DIGITAL . . .

- The input source using the DIGITAL IN connector will be sent to the MAIN AUDIO OUTPUTS. The input source using the ANALOG IN connector will be ignored.
- The MAIN AUDIO OUTPUTS will mute when an invalid digital audio input source is present. Valid digital audio input sources include PCM, Dolby Digital, and dts(-ES).
- The unit will automatically select the set the INPUT SELECT parameter to DIGITAL when no ANALOG IN connector is selected.

ANALOG BYPASS (ON, OFF)



Allows analog input sources to bypass analog-to-digital conversion and internal processing. Selecting the ANALOG BYPASS parameter accesses the pulldown menu shown at the right.When the pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the ON and OFF settings. Press the left menu arrow to exit the pulldown menu and accept the current setting.

. . . MAIN ADVANCED and ANALOG B YPASS continue on page 3-18

MAIN ADVANCED *(continued from page 3-17)*

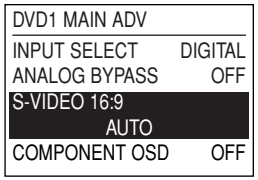
SETUP ▶ INPUTS ▶ DVD1 ▶ **MAIN ADVANCED**

ANALOG BYPASS *(continued from page 3-17)* (ON, OFF)

When set to ON, the unit passes the analog input signal to the corresponding analog outputs. Stereo analog input signals are sent to the MAIN AUDIO OUTPUTS labeled FRONT L/R. 5.1-channel analog input signals are also sent to the MAIN AUDIO OUTPUTS. The (L) input is sent to the FRONT L output. The (R) input is sent to the FRONT R output. The (C) input is sent to the CENTER output. The (SUB) input is sent to the SUBWOOFER L/R and LFE outputs. The (LS) input is sent to the SIDE L and REAR L outputs. And, the (RS) input is sent to the SIDE R and REAR R outputs.

When set to OFF, the unit routes analog input signals through analog-to-digital conversion, internal processing, and digital-to-analog conversion. This allows the input to use internal processing, such as listening modes, crossovers, and equalization.

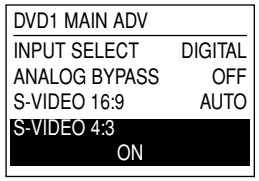
S-VIDEO 16:9 (AUTO, OFF)



Controls the passage of anamorphic video trigger signals. Selecting the S-VIDEO 16:9 parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the AUTO and OFF settings. Press the left MENU arrow to select the current setting.

When set to AUTO, the unit allows anamorphic video signals to pass through the S-video switcher. This enables compatible display devices to automatically switch between anamorphic and non-anamorphic display modes. When set to OFF, the unit prevents anamorphic signals from passing through the S-video switcher. This disables combatible display devices from switching between anamorphic and non-anamorphic display modes.

S-VIDEO OSD 4:3 (ON, OFF)

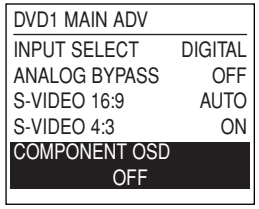


Controls the appearance of the on-screen display. Selecting the S-VIDEO 4:3 parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the AUTO and OFF settings. Press the left MENU arrow to select the current setting.

When set to ON, the display device using the S-video output shows the on-screen display in a 4:3 aspect ratio regardless of the incoming signal. When set to OFF, the on-screen display device using the S-video output shows the on-screen display in the same aspect ratio as the incoming signal.

> ***Note:***
>
> *On-screen display menus will appear horizontally stretched across the entire screen when the all of the following conditions are met:*
>
> - *The S-VIDEO OSD 4:3 parameter is set to OFF.*
> - *An anamorphic trigger signal is present.*
> - *The on-screen display is shown on a 16:9 display device.*

COMPONENT OSD (ON, OFF)

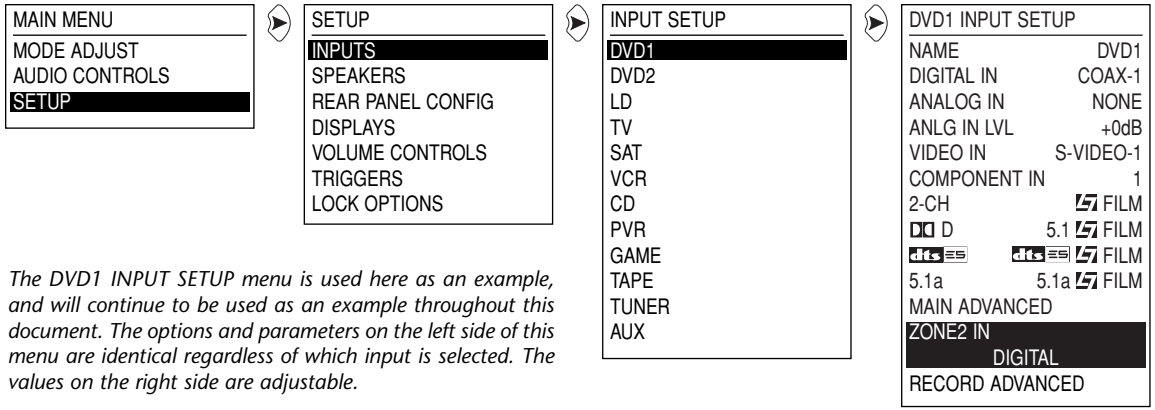


Controls the on-screen display when the display device is using the COMPONENT VIDEO OUTPUT. Selecting the S-VIDEO 16:9 parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the AUTO and settings. Press the left MENU arrow to select the current setting.

When set to ON, the display device using the COMPONENT VIDEO OUTPUT shows on-screen menus as a 480i video signal on a full blue-screen background. The on-screen display includes the two-line status. When set to OFF, the display device using the COMPONENT VIDEO OUTPUT does not show the on-screen display.

Note:

The display device using the COMPONENT VIDEO OUTPUT will not show the on-screen display when the BACKGROUND parameter on the ON-SCREEN DISPLAY menu is set to OFF.



The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

ZONE2 IN (ANLG, DIGITAL, DMIX)

SETUP ▶ INPUTS ▶ DVD1 ▶ ZONE2 IN

Selecting the ZONE2 IN parameter accesses the pulldown menu shown at the top of the next page, which can be used to control the interaction of the analog and digital input connectors assigned for the selected input. The INPUT SETUP menu allows the selection of two audio connectors, one analog (ANALOG IN) and one digital (DIGITAL IN).

When the pulldown menu appears, press the up and down MENU arrows on the remote control to scroll through the ANLG, DIGITAL, and DMIX settings. Press the left menu arrow to close the pulldown menu and select the current setting.

When set to ANLG . . .

- The input source using the ANALOG IN connector is sent to the ZONE 2 AUDIO OUTPUTS.
- The 5.1-channel analog input is not compatible with the ZONE 2 AUDIO OUTPUTS.
- The ZONE 2 AUDIO OUTPUTS will mute when the 5.1-channel analog input is selected for the Main Zone, except when the 5.1a BYPASS listening mode is also selected for the Main Zone.

When set to DIGITAL . . .

- The input source using the DIGITAL IN connector is sent to the ZONE 2 AUDIO OUTPUTS.
- The ZONE 2 AUDIO OUTPUTS will mute when an invalid digital audio input source is present. Valid digital audio input sources include PCM. Invalid digital audio input sources include Dolby Digital and dts(-ES).

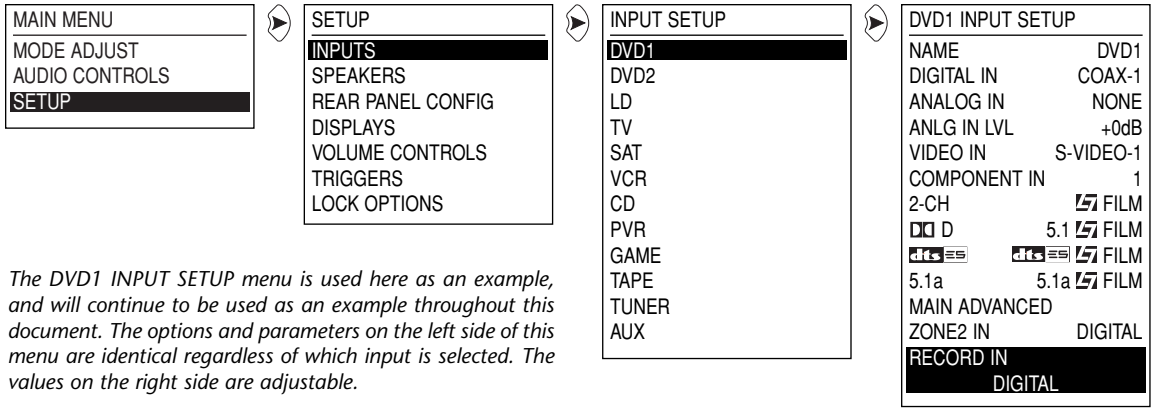
When set to DMIX . . .

- A 2-channel downmixed version of Main Zone audio is sent to the ZONE 2 AUDIO OUTPUTS. To generate a downmix, the input that is selected in Zone 2 must also be selected in the Main Zone. Otherwise, the ZONE 2 AUDIO OUTPUTS will mute.
- Downmixes can be generated for Dolby Digital, dts(-ES), and 5.1-channel analog input sources.
- Downmixes cannot be generated when the 5.1a BYPASS listening mode is selected in the Main Zone.
- It is recommended to set the ZONE2 IN parameter to DMIX when recording from a DVD player without built-in Dolby Digital or dts(-ES) decoding to a VCR or PVR (i.e. Tivo® or Replay TV®).

Note:

- *It is recommended to set the ZONE2 IN parameter to ANLG for Dolby Digital input sources and to DMIX for dts(-ES) input sources. When set to DIGITAL, the unit recognizes dts-encoded CDs as audio signals (not data signals) and outputs loud digital noise from the ZONE 2 AUDIO OUTPUTS.*

- *When the ZONE2 IN parameter is set to DIGITAL or DMIX, the ZONE 2 AUDIO OUTPUTS will mute when an MPEG input source is present. The unit does not decode MPEG-encoded input signals.*



The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

RECORD IN (ANLG, DIGITAL, DMIX)

SETUP ▶ INPUTS ▶ DVD1 ▶ RECORD IN

Selecting the RECORD IN parameter accesses the pulldown menu shown at the top of the next page, which can be used to control the interaction of the analog and digital input connectors assigned for the selected input. The INPUT SETUP menu allows the selection of two audio connectors, one analog (ANALOG IN) and one digital (DIGITAL IN).

When the pulldown menu appears, press the up and down MENU arrows on the remote control to scroll through the ANLG, DIGITAL, and DMIX settings. Press the left menu arrow to close the pulldown menu and select the current setting.

When set to ANLG . . .

- The input source using the ANALOG IN connector is sent to the RECORD AUDIO OUTPUTS.
- The 5.1-channel analog input is not compatible with the RECORD AUDIO OUTPUTS.
- The RECORD AUDIO OUTPUTS will mute when the 5.1-channel analog input is selected for the Main Zone, except when the 5.1a BYPASS listening mode is also selected for the Main Zone.
- Analog input sources are sent to the analog-to-digital converter, then to the RECORD AUDIO OUTPUT labeled S/PDIF.

When set to DIGITAL . . .

- The input source using the DIGITAL IN connector is sent to the RECORD AUDIO OUTPUTS.
- The RECORD AUDIO OUTPUTS will mute when an invalid digital audio input source is present. Valid digital audio input sources include PCM. Invalid digital audio input sources include Dolby Digital and dts(-ES).

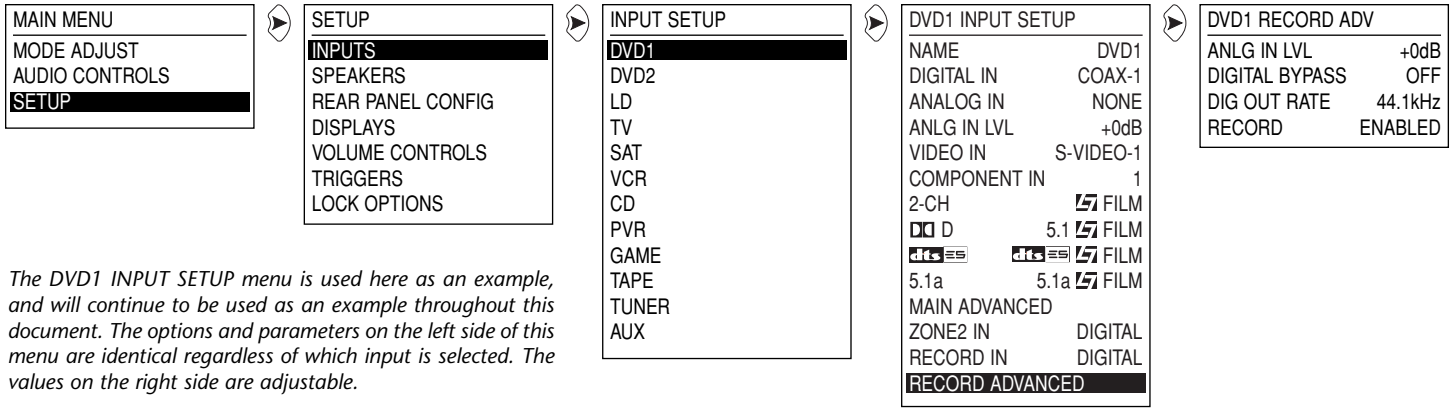
When set to DMIX . . .

- A 2-channel downmixed version of Main Zone audio is sent to the RECORD AUDIO OUTPUTS. To generate a downmix, the input that is selected in the Record Zone must also be selected in the Main Zone. Otherwise, the RECORD AUDIO OUTPUTS will mute.
- Downmixes can be generated for Dolby Digital, dts(-ES), and 5.1-channel analog input sources.
- Downmixes cannot be generated when the 5.1a BYPASS listening mode is selected in the Main Zone.
- It is recommended to set the RECORD IN parameter to DMIX when recording from a DVD player without built-in Dolby Digital or dts(-ES) decoding to a VCR or PVR (i.e. Tivo® or Replay TV®).

Note:

- *It is recommended to set the RECORD IN parameter to ANLG for Dolby Digital input sources and to DMIX for dts(-ES) input sources. When set to DIGITAL, the unit recognizes dts-encoded CDs as audio signals (not data signals) and outputs loud digital noise from the RECORD AUDIO OUTPUTS.*

- *When the RECORD IN parameter is set to DIGITAL or DMIX, the RECORD AUDIO OUTPUTS will mute when an MPEG input source is present. The unit does not decode MPEG-encoded input signals.*



The DVD1 INPUT SETUP menu is used here as an example, and will continue to be used as an example throughout this document. The options and parameters on the left side of this menu are identical regardless of which input is selected. The values on the right side are adjustable.

Likewise, whenever "DVD1" appears in a menu path, any other input may be substituted.

RECORD ADVANCED

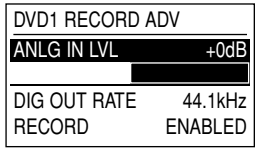
SETUP ▶ INPUTS ▶ DVD1 ▶ RECORD ADVANCED

Selecting the RECORD ADVANCED option accesses the RECORD ADV menu, which can be used to configure advanced settings for the Record Zone.

Parameter	Default Value	Values
ANLG IN LVL	+0dB	-18 to +12dB
DIGITAL BYPASS	OFF	ON, OFF
DIG OUT RATE	44.1kHz	44.1kHz, 48kHz, 88.2kHz, 96kHz, INPUT
RECORD	ENABLED	ENABLED, BLOCKED

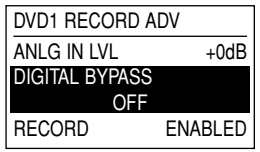
ANLG IN LVL (-18 to +12dB)

Provides manual control of analog input levels in the RECORD AUDIO OUTPUT labeled S/PDIF. This parameter is used to prevent the internal analog-to-digital converter from overloading. It can be adjusted while listening to input sources.



Selecting the ANLG IN LVL parameter accesses the horizontal bar graph shown at the right, which illustrates the position at which the current setting falls within the -18 to +12dB parameter range. When the graph appears, press the up and down MENU arrows on the remote control to increase and decrease the setting in 1dB increments. Press the left MENU arrow to close the graph and return to the RECORD ADV menu.

DIGITAL BYPASS (ON, OFF)



Allows direct digital recording. Selecting the DIGITAL BYPASS parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the ON and OFF settings. Press the left MENU arrow to select the current setting.

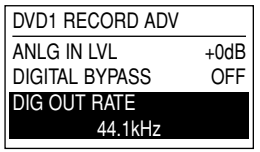
When set to ON, the unit passes the digital input signal – unaltered – to the RECORD AUDIO OUTPUT labeled S/PDIF. When set to OFF, the unit sends the digital input signal through a sample rate converter before passing it to the RECORD AUDIO OUTPUT labeled S/PDIF. This allows digital output signals to match digital recording device inputs.

Note:

When the DIGITAL BYPASS parameter is set to ON, the DIG OUT RATE parameter has no effect.

CAUTION When a Dolby Digital input source is sent to the RECORD AUDIO OUTPUTS, adjusting the setting of the DIGITAL BYPASS parameter will cause a loud burst of digital nosie. It is recommended to stop Dolby Digital input sources before adjusting the parameter setting.

DIG OUT RATE (44.1kHz, 48kHz, 88.2kHz, 96kHz, INPUT)

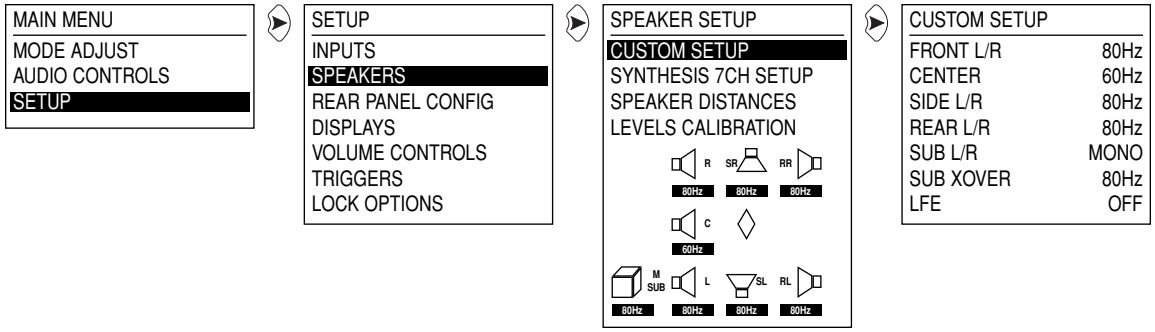


Sets the sampling rate of the RECORD AUDIO OUTPUT labeled S/PDIF for analog or digital inputs. Selecting the DIG OUT RATE parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to scroll through the settings shown above. Press the left MENU arrow to accept the current setting.

When set to INPUT, the unit varies the sampling rate of the RECORD AUDIO OUTPUT labeled S/PDIF to match the sampling rate of the input signal. When set to a numerical value, the unit maintains the sampliing rate of the RECORD AUDIO OUTPUT labeled S/PDIF at the selected value. This is useful for recording devices that operate on a single sampling rate, such as CD-Rs (44.1kHz).

Note:

Adjusting the setting of the DIG OUT RATE parameter will cause the RECORD AUDIO OUTPUT labeled S/PDIF to mute momentarily – even if the DIGITAL BYPASS parameter is set to ON.

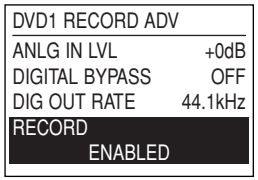


RECORD ADVANCED *(continued from page 3-26)*

SETUP ➤ **INPUTS** ➤ **DVD1** ➤ **RECORD ADVANCED**

RECORD

(ENABLED, BLOCKED)



Prevents feedback loops with recording devices. Selecting the RECORD parameter accesses the pulldown menu shown at the to of the next column. When this pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the ENABLED and BLOCKED settings. Press the left MENU arrow to accept the current setting.

When set to ENABLED, the unit allows record signals from the selected input to pass to the RECORD AUDIO and VIDEO OUTPUTS. When set to BLOCKED, the unit blocks the RECORD AUDIO OUTPUTS, preventing feedback loops. However, the unit will still pass video signals to the RECORD VIDEO OUTPUTS.

SPEAKERS

SETUP ➤ **SPEAKERS**

Selecting the SPEAKERS option on the SETUP menu accesses the SPEAKER SETUP menu, which can be used to configure the MAIN AUDIO OUTPUTS for a custom or Synthesis 7-channel speaker setup. It can also be used to set speaker distances and calibrate output levels.

CUSTOM SETUP

SETUP ➤ **SPEAKERS** ➤ **CUSTOM SETUP**

Selecting the CUSTOM SETUP option accesses the CUSTOM SETUP menu, which can be used to configure the MAIN AUDIO OUTPUTS for a custom speaker setup. It can also be used to set crossover points for most outputs, and to activate and deactivate the LFE output.

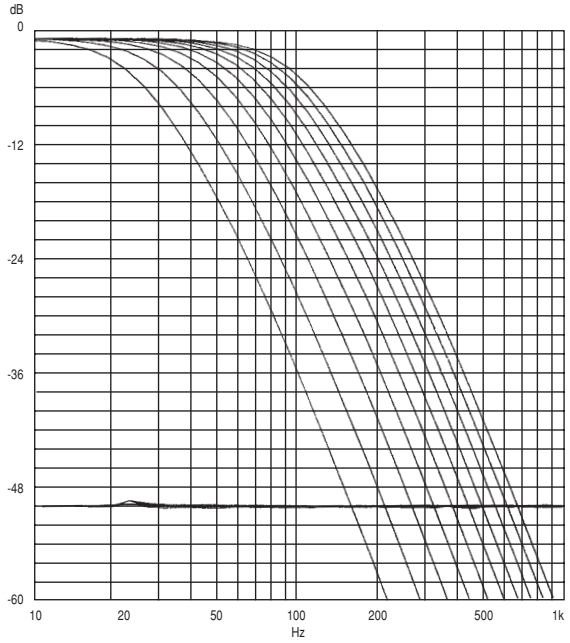
Determining Crossover Points

The CUSTOM SETUP menu can be used to set individual crossover points for the MAIN AUDIO OUTPUTS labeled FRONT L/R, CENTER, SIDE L/R, REAR L/R, and SUBWOOFER L/R. Crossover points can be set in 10Hz increments within a 30 to 120Hz range. All crossover points activate a 24dB per octave filter. The graphs shown below illustrate the frequency response of each crossover point.

Crossover points determine how the unit redirects low-frequency signals. For each output, select the crossover setting closest to the low-frequency rating of the corresponding speaker. For the SUBWOOFER L/R outputs, select the crossover setting that matches the lowest setting of other speakers in the system. In general, low frequencies will be redirected from the outputs with the highest crossover points to the outputs with the lowest crossover points. Low-frequency signals below the lowest crossover point will be redirected to the SUBWOOFER L/R outputs. If the lowest crossover point is FULL, low-frequency signals will not be redirected to the SUBWOOFER L/R outputs.

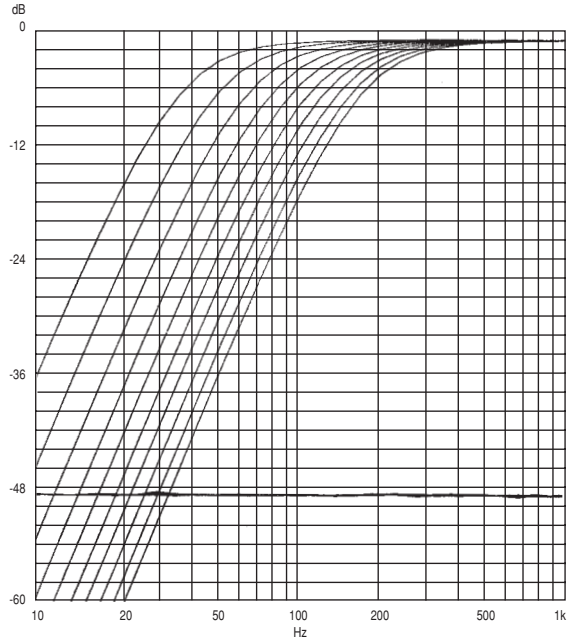
Lowpass Filter

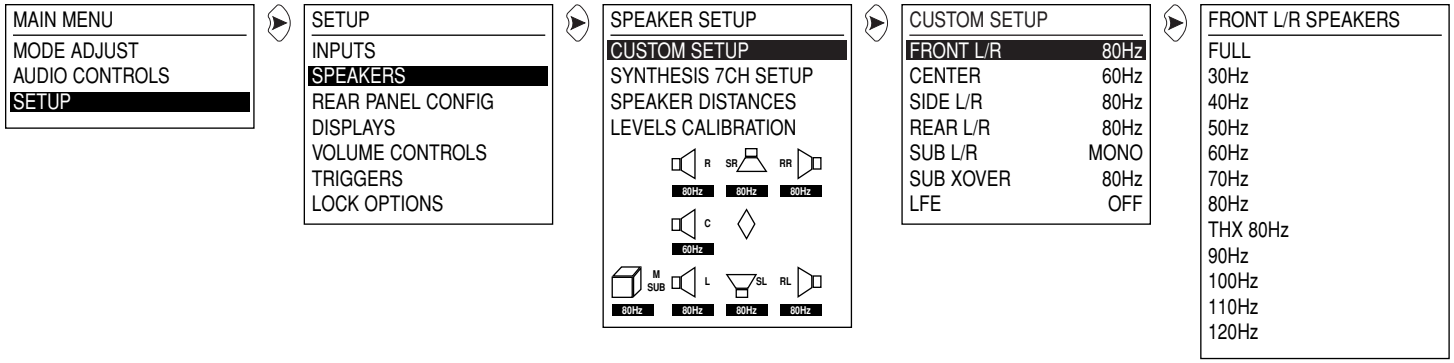
The lowpass filter attenuates high frequencies at 24dB per octave. From left to right, the curves represent crossover settings from 30 to 120Hz.



Highpass Filter

The highpass filter attenuates low frequencies at 24dB per octave. From left to right, the curves represent crossover settings from 30 to 120Hz.





CUSTOM SETUP *(continued from page 3-29)*

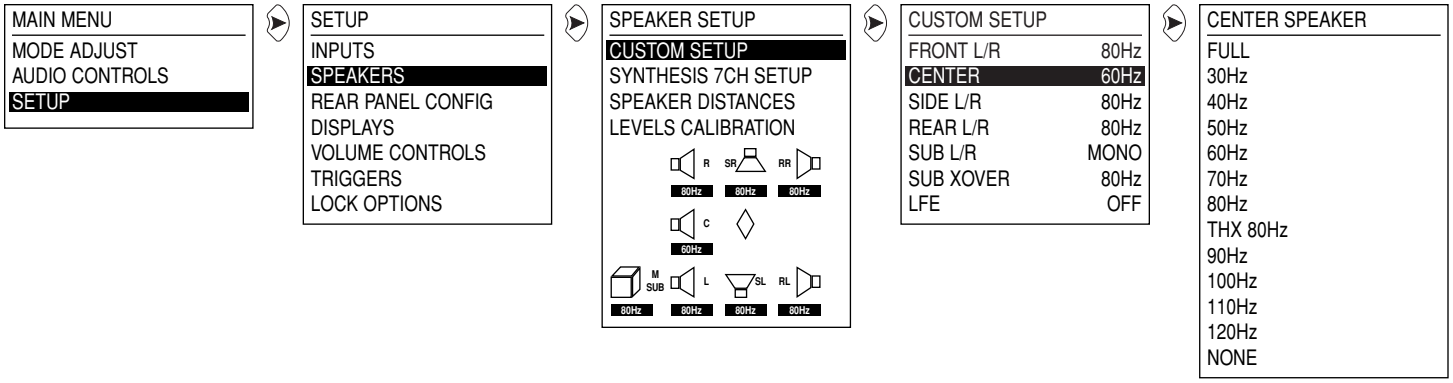
SETUP ▶ SPEAKERS ▶ CUSTOM SETUP

Parameter	Default Value	Values
FRONT L/R	40Hz	FULL, 30Hz to 120Hz, THX 80Hz
CENTER	60Hz	FULL, 30Hz to 120Hz, THX 80Hz, NONE
SIDE L/R	60Hz	FULL, 30Hz to 120Hz, THX 80Hz, NONE
REAR L/R	60Hz	FULL, 30Hz to 120Hz, THX 80Hz, NONE
SUB L/R	MONO	MONO, STEREO, NONE
SUB XOVER	40Hz	FULL, 30Hz to 120Hz, THX 80Hz
LFE	OFF	ON, OFF

FRONT L/R (FULL, 30Hz to 120Hz, THX 80Hz)

Selecting the FRONT L/R parameter accesses the FRONT L/R SPEAKERS menu, which can be used to set the crossover point for the MAIN AUDIO OUTPUTS labeled FRONT L/R.

When set to FULL, the unit sends a full-range audio signal to the FRONT L/R outputs. When set to a crossover point, the unit activates a crossover at the selected frequency. Choose the setting closes to the low-frequency rating of the front leftand right speakers. (See page 3-29 for more information about determining crossover settings.)



CENTER (FULL, 30Hz to 120Hz, THX 80Hz, NONE)

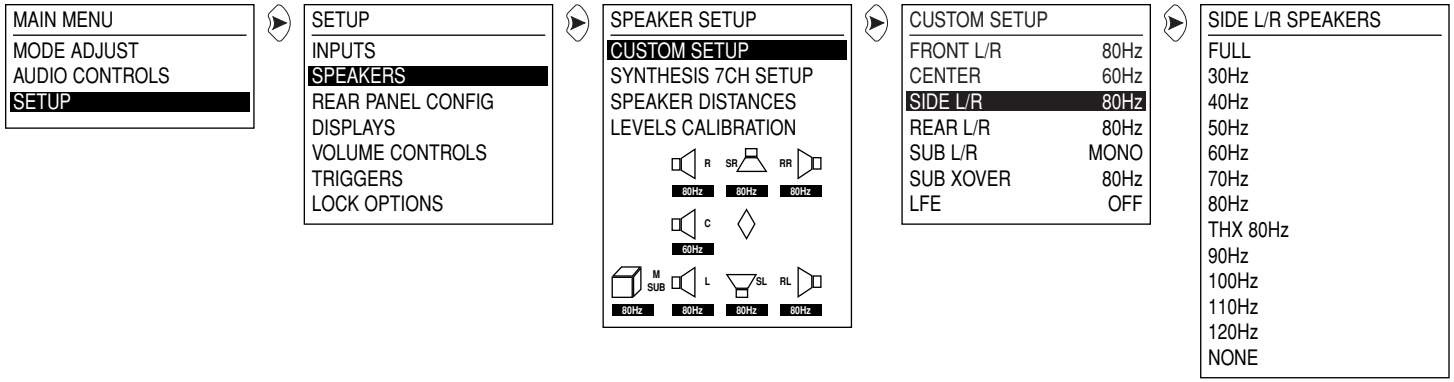
Selecting the CENTER parameter accesses the CENTER SPEAKER menu, which can be used to set the crossover point for the MAIN AUDIO OUTPUTS labeled CENTER.

When set to FULL, the unit sends a full-range audio signal to the CENTER output. When set to a crossover point, the unit activates a crossover at the selected frequency. Choose the setting closest to the low-frequency rating of the center speaker. (See page 3-29 for more information information about determining crossover settings.) When set to NONE, the unit redirects center channel signals to the FRONT L/R outputs.

Note:

When the 5.1 analog input is selected, center channel output signals will not be redirected to other channels when the CENTER parameter is set to NONE.

. . . CUSTOM SETUP continues on page 3-30



CUSTOM SETUP *(continued from page 3-29)*

SETUP ▶ **SPEAKERS** ▶ **CUSTOM SETUP**

SIDE L/R (FULL, 30Hz to120Hz, THX 80Hz, NONE)

Selecting the SIDE L/R parameter accesses the SIDE L/R speakers menu, which can be used to set the crossover point for the MAIN AUDIO OUTPUTS labeled SIDE L/R.

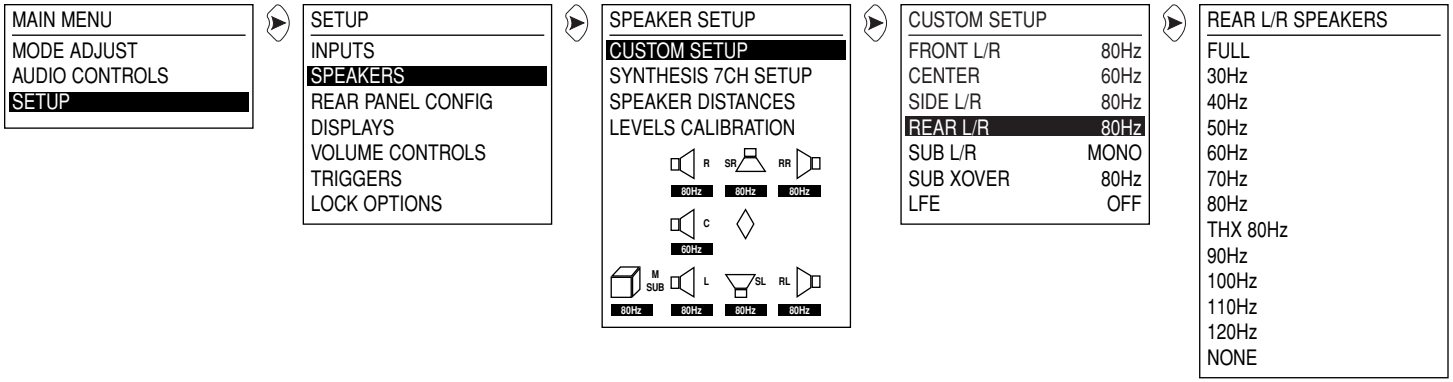
When set to FULL, the unit sends a full-range audio signal to the SIDE L/R outputs. When set to a crossover point, the unit activates a crossover at the selected frequency. Choose the setting closest to the low-frequency rating of the side left and right speakers. (See page 3-29 for more information about determining crossover settings.)

When set to NONE, the unit redirects side channel signals to the REAR L/R outputs. When both the SIDE L/R and REAR L/R parameters are set to NONE, the unit redirects surround channel signals to the FRONT L/R outputs.

Note:

The SURROUND EX parameter is not available when either the SIDE L/R or REAR L/R parameter on the CUSTOM SETUP menu is set to NONE, or when the REAR L/R parameter on the SYNTHESIS 7CH SETUP menu is set to NONE.

When the 5.1 analog input is selected, side channel output signals will not be redirected to other channels when the SIDE L/R parameter is set to NONE.



REAR L/R (FULL, 30Hz to 120Hz, THX 80Hz, NONE)

Selecting the REAR L/R parameter accesses the REAR L/R SPEAKERS menu, which can be used to set the crossover setting for the MAIN AUDIO OUTPUTS labeled REAR L/R.

When set to FULL, the unit sends a full-range audio signal to the REAR L/R outputs. When set to a crossover point, the unit activates a crossover at the selected frequency. Choose the setting closest to the low-frequency rating of the rear left and right speakers. (See page 3-26 for more information about determining crossover settings.)

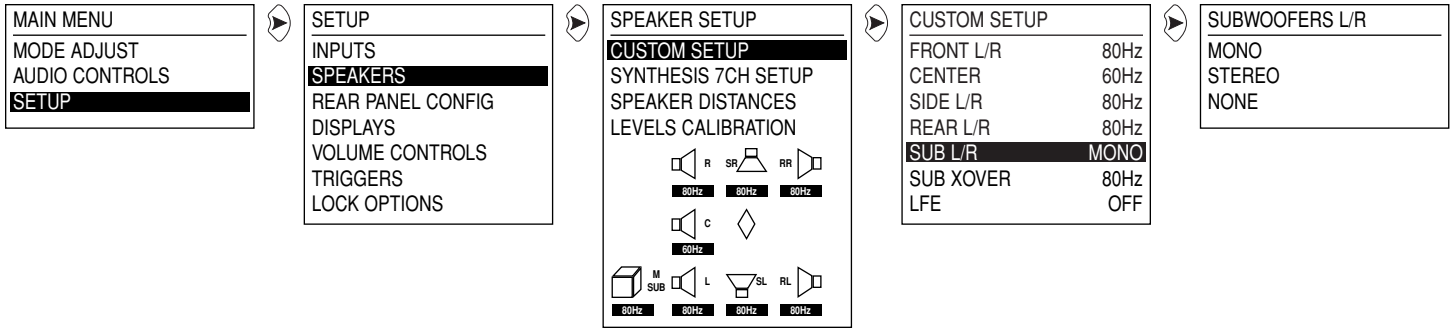
When set to NONE, the unit redirects rear channel signals to the SIDE L/R outputs. When both the SIDE L/R and REAR L/R parameters are set to NONE, the unit redirects surround channel signals to the FRONT L/R outputs.

Note:

The SURROUND EX parameter is not available when either the SIDE L/R or REAR L/R parameter on the CUSTOM SETUP menu is set to NONE, or when the REAR L/R parameter on the SYNTHESIS 7CH SETUP menu is set to NONE.

When the 5.1 analog input is selected, rear channel output signals will not be redirected to other channels when the REAR L/R parameter is set to NONE.

. . . CUSTOM SETUP continues on page 3-32



CUSTOM SETUP *(continued from page 3-31)*

SETUP ▶ **SPEAKERS** ▶ **CUSTOM SETUP**

SUB L/R (MONO, STEREO, NONE)

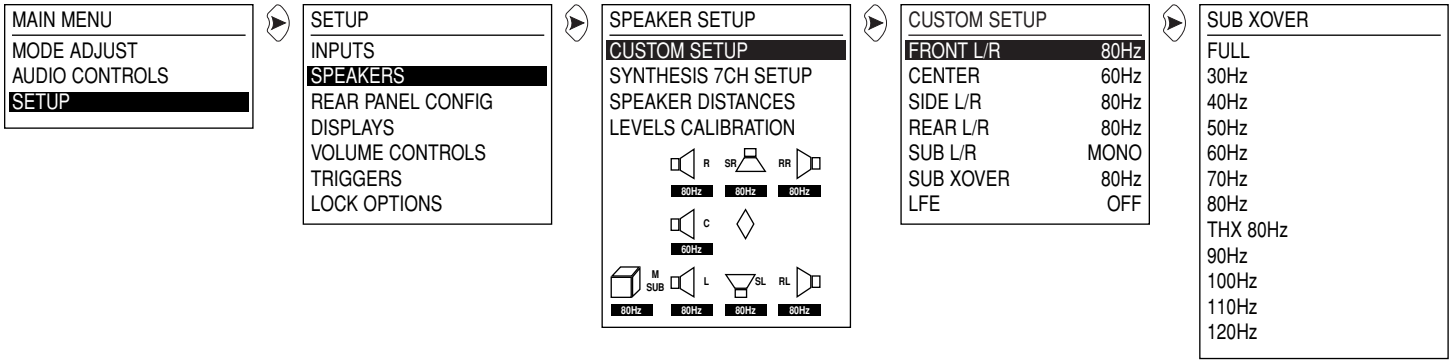
Selecting the SUB L/R parameter accesses the SUBWOOFERS L/R menu shown at the right, which can be used to configure the MAIN AUDIO OUTPUTS labeled SUBWOOFER L/R.

When set to MONO, signals from the front left and right, center, side left and right, and rear left and right channel are combined and sent to the SUBWOOFER L/R outputs. This setting is recommended for all Synthesis systems, regardless of the number of subwoofers in use.

When set to STEREO, low-frequency signals from the front left, center, side left, and rear left channels are combined and sent to the SUBWOOFER L output. Low-frequency signals from the front right, center, side right, and rear right are combined and set to the SUBWOOFER R output. When set to NONE, low-frequency signals from the front, center, side, and rear channels will not be passed to the SUBWOOFER L/R outputs. Instead, these signals will be filtered at the lowest crossover point selected.

Note:

When the 5.1 analog input is selected, subwoofer channel output signals will not be redirected to other channels when the SUB L/R parameter is set to NONE.

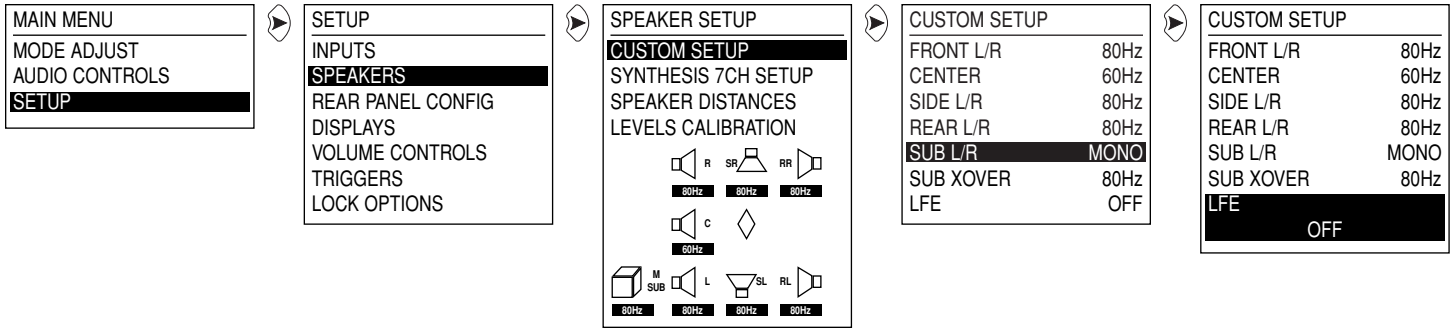


SUB XOVER (FULL, 30Hz to 120Hz, THX 80Hz)

Selecting the SUB XOVER parameter accesses the SUB XOVER menu, which can be used to set the crossover point for the MAIN AUDIO OUTPUTS labeled SUBWOOFER L/R.

When set to FULL, the unit sends a full-range audio signal to the SUBWOOFER L/R outputs. When set to a crossover point, the unit activates a crossover at the selected frequency. Choose the setting that matches the lowest crossover setting in the system. (See page 3-26 for more information about determining crossover settings.)

. . . CUSTOM SETUP continues on page 3-34



CUSTOM SETUP *(continued from page 3-33)*

SETUP ▶ **SPEAKERS** ▶ **CUSTOM SETUP**

LFE (ON, OFF)

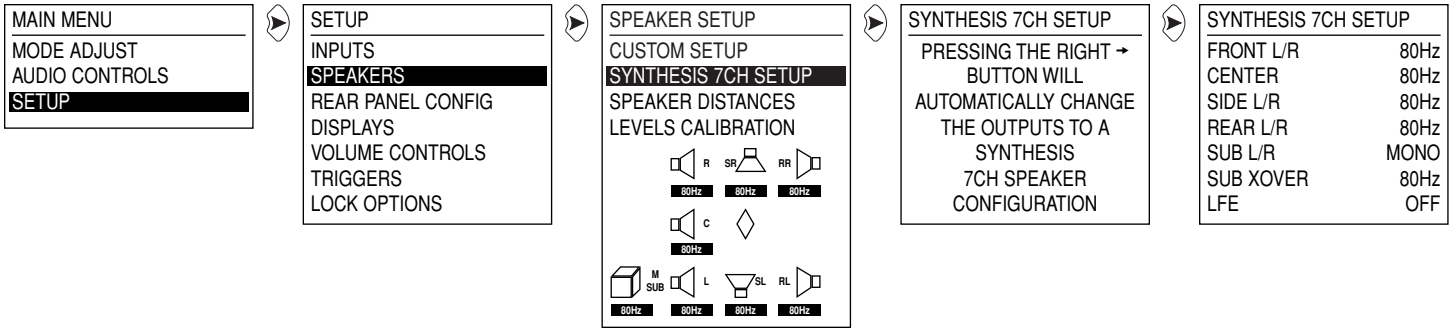
Activates and deactivates the MAIN AUDIO OUTPUT labeled LFE. Selecting the LFE parameter accesses the pulldown menu shown above. When the pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the ON and OFF settings. Press the left MENU arrow to accept the current setting.

When set to ON, the unit activates the LFE output and sends LFE channel signals to the LFE output. When set to OFF, the unit deactivates the LFE output and sends LFE channel signals to the SUBWOOFER L/R outputs. If the SUB L/R parameter is set to NONE, the LFE channel signals are sent to the MAIN AUDIO OUTPUTS with the lowest crossover point.

For example, the FRONT L/R parameter is set to 40Hz, the SUB L/R parameter is set to NONE, and the LFE parameter is set to ON. All other parameters are set to 60Hz. LFE channel signals will be sent to the FRONT L/R outputs, based on the 40Hz crossover point.

Note:

When the 5.1 analog input is selected, LFE channel output signals will not be redirected to other channels when the LFE parameter is set to OFF.



SYNTHESIS 7CH SETUP

SETUP ➤ **SPEAKERS** ➤ **SYNTHESIS 7CH SETUP**

> ***Note:***
>
> *A Synthesis speaker setup incorporates THX-certified loud speakers. Use the CUSTOM SETUP menu for systems that include non-THX-certified loud speakers.*

Selecting the SYNTHESIS 7CH option prompts the appearance of the SYNTHESIS 7CH message, which warns that pressing the right MENU arrow on the remote control again will automatically configure the MAIN AUDIO OUTPUTS for a Synthesis 7-channel speaker setup. Pressing the right MENU arrow activates this configuration. Pressing the left MENU arrow exits the message and returns to the SPEAKER SETUP menu without activating this configuration.

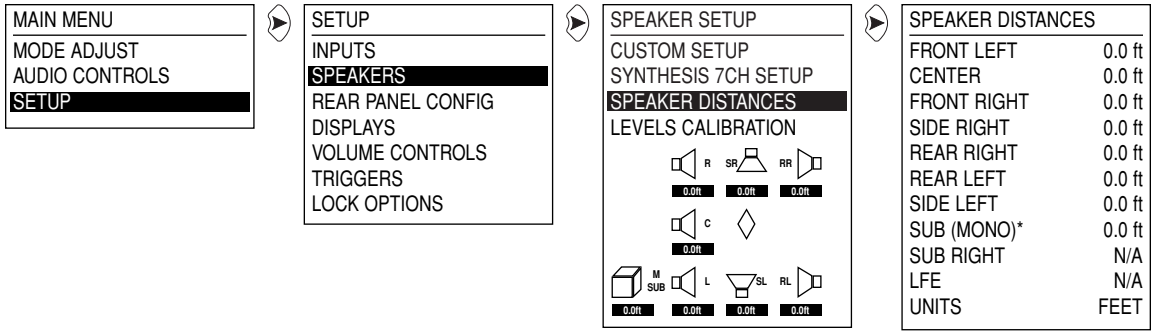
Activating a Synthesis 7-channel speaker setup accesses the SYNTHESIS 7CH SETUP menu, which provides configuration of the MAIN AUDIO OUTPUTS. With the exception of the REAR L/R parameter, these parameters cannot be adjusted.

When a Synthesis 7-channel setup is activated:

- The unit applies a Synthesis 7-channel speaker setup to all inputs and listening modes.
- The unit automatically sets the FRONT L/R, CENTER, SIDE L/R, REAR L/R, and SUBWOOFER L/R outputs to an 80Hz crossover point with a 24dB per octave filter. The unit automatically configures the SUBWOOFER L/R outputs for mono operation, and deactivates the LFE output.
- The unit ignores settings on the CUSTOM SETUP menu.

Parameter	Default Value	Values
FRONT L/R	80Hz	80Hz
CENTER	80Hz	80Hz
SIDE L/R	80Hz	80Hz
REAR L/R	80Hz	80Hz, NONE
SUB L/R	MONO	MONO
SUB XOVER	80Hz	80Hz
LFE		OFF OFF

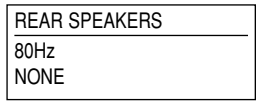
. . . SYNTHESIS 7CH SETUP continues on page 3-36



SYNTHESIS 7CH SETUP *(continued from page 3-35)*

SETUP ▶ **SPEAKERS** ▶ **SYNTHESIS 7CH SETUP**

REAR L/R (80Hz, NONE)



Selecting the REAR L/R parameter accesses the REAR SPEAKERS menu shown at the right, which can be used to activate and deactivate the MAIN AUDIO OUTPUTS labeled REAR L/R. When setto 80Hz, the unit activates the REAR L/R outputs and configures the MAIN AUDIO OUTPUTS for a Synthesis 7.1-channel speaker setup. When set to NONE, the unit deactivates the REAR L/R outputs and configures the MAIN AUDIO OUTPUTS for a Synthesis 5.1-channel speaker setup.

Note:

The SURROUND EX parameter is not available when the REAR L/R parameter on the SYNTHESIS 7CH SETUP menu is set to NONE.

When the 5.1 analog input is selected, rear channel output signals will not be redirected to other channels when the REAR L/R parameter is set to NONE.

SPEAKER DISTANCES

SETUP ▶ **SPEAKERS** ▶ **SPEAKER DISTANCES**

Selecting the SPEAKER DISTANCES option accesses the SPEAKER DISTANCES menu, which can be used to set the listener position relative to the speakers. The unit has a speaker distance control that allows distances to be entered for all speakers. This feature helps ensure accurate signal arrival times at the primary listening position, but it is not a substitute for proper speaker placement.

Note:

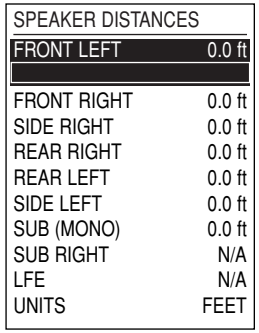
When the system includes a JBL Digital Equalizer, speaker distances should remain at their factory-defaul settings. The digital equalizer will perform arrival time correction when calibrated.

Parameter	Default Value	Values
FRONT LEFT	0.0ft	0 to 30ft or 0 to 12m
CENTER	0.0ft	0 to 30ft or 0 to 12m
FRONT RIGHT	0.0ft	0 to 30ft or 0 to 12m
SIDE RIGHT	0.0ft	0 to 30ft or 0 to 12m
REAR RIGHT	0.0ft	0 to 30ft or 0 to 12m
REAR LEFT	0.0ft	0 to 30ft or 0 to 12m
SIDE LEFT	0.0ft	0 to 30ft or 0 to 12m
SUB (MONO)	0.0ft	0 to 30ft or 0 to 12m
SUB RIGHT	N/A	0 to 30ft or 0 to 12m
LFE	N/A	0 to 30ft or 0 to 12m
UNITS	FEET	FEET, METERS

Speaker Parameters

(0 to 30ft or 0 to 12m)

The first 10 parameters on the SPEAKER DISTANCES menu correspond to speakers in the system. Selecting one of these speaker parameters accesses the horizontal bar graph shown at the right, which illustrates the position at which the current setting falls within the 0 to 30ft or 0 to 12m parameter range. When the graph appears, press the up and down MENU arrows on the remote control to increase and decrease the setting in 0.5dB increments. Press the left MENU arrow to close the graph and return to the SPEAKER DISTANCES menu.



To determine the appropriate setting for each parameter, measure the distance between the primary listening position and the front baffle of the corresponding speaker. Enter the closest available value in the appropriate parameter.

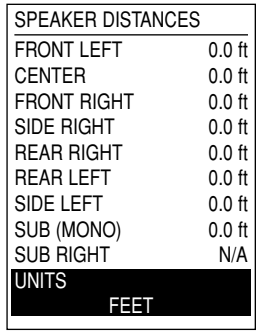
Note:

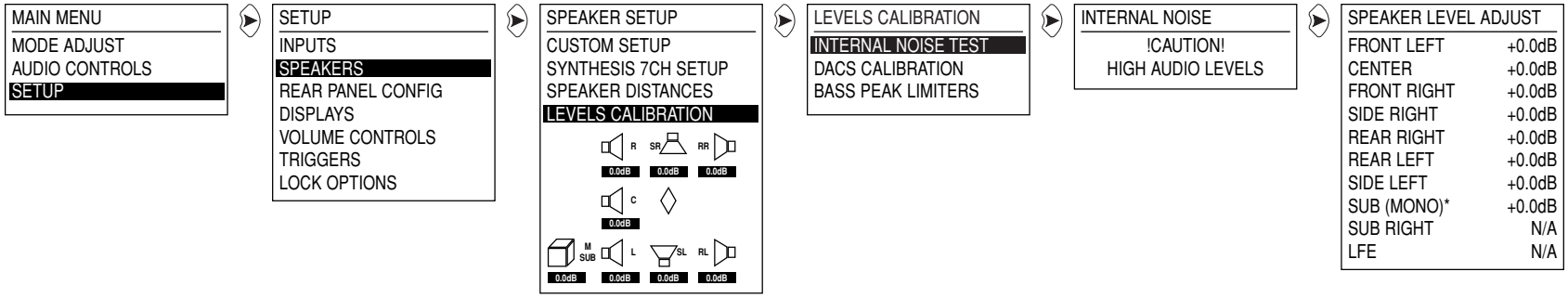
The SUB RIGHT parameter is not available unless the SUB L/R parameter on the CUSTOM SETUP menu is set to STEREO. The LFE parameter is not available unless the LFE parameter on the CUSTOM SETUP menu is set to ON.

UNITS

(FEET, METERS)

Selecting the UNITS parameter accesses the pulldown menu shown at the top of the next column, which can be used to select the desired unit of measurement for speaker distances. When the pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the FEET and METERS settings. Press the left MENU arrow to accept the current setting. When the setting is adjusted, the unit will automatically convert current speaker distances into the selected unit of measurement.





LEVELS CALIBRATION

SETUP ▶ SPEAKERS ▶ LEVELS CALIBRATION

Selecting the LEVELS CALIBRATION option accesses the LEVELS CALIBRATION menu, which contains options that can be used to calibrate output levels. Properly calibrated output levels are critical and simple to achieve.

To ensure the most accurate calibration of output levels:

- Use a Sound Pressure Level (SPL) meter, a device that measures the relative loudness of the speakers to ensure accurate calibration of output levels. SPL meters are available at Radio Shack (catalog number 33-2050).
- Eliminate extraneous noises in the listening space, such as conversations, air conditioners, and sounds the filter in through open doors and windows.
- Remove objects (including people) that obstruct the line-of-sight path between the SPL meter and the speaker being measured.
- Measure output levels from the primary listening position, placing the SPL meter at the approximate spot where the listener's head will be during listening.

INTERNAL NOISE TEST

Selecting the INTERNAL NOISE TEST option prompts the appearance of the INTERNAL NOISE message, which warns that the INTERNAL NOISE TEST generates loud calibration noises. Pressing the right MENU arrow on the remote control activates the INTERNAL NOISE TEST. Pressing the left MENU arrow exits the message and returns to the LEVELS CALIBRATION menu without activating the INTERNAL NOISE TEST.

Activating the INTERNAL NOISE TEST accesses the SPEAKER LEVEL ADJUST menu, which can be used to monitor the INTERNAL NOISE TEST and to manually adjust output levels. As the INTERNAL NOISE TEST is conducted, a noise signal moves from output to output following the parameter order on the menu. The cursor automatically scrolls downward through the parameters highlighting each parameter as the corresponding output is tested. Each output is tested for about 4 seconds.

Note:

The calibration noise will pass briefly through the SUB R output when the SUB L/R parameter on the CUSTOM SETUP or SYNTHESIS 7CH SETUP menu is set to MONO, or the SUB RIGHT parameter on the SPEAKER LEVELS ADJUST menu is manually selected during the test.

To manually adjust output levels on the SPEAKER LEVEL ADJUST menu during the INTERNAL NOISE TEST:

1. Set the SPL meter to "C" weighting and "SLOW" response.

2. Press the up and down MENU arrows on the remote control to scroll upward and downward through the complete list of parameters. This will temporarily interrupt automatic scrolling.

3. Press the right MENU arrow to manually select the highlighted parameter. Selecting the highlighted parameter accesses the horizontal graph shown at the right, which illustrates the position at which the current setting falls within the -18 to +12dB range.

SPEAKER LEVEL ADJUST	
FRONT LEFT	+0.0dB
FRONT RIGHT	+0.0dB
SIDE RIGHT	+0.0dB
REAR RIGHT	+0.0dB
REAR LEFT	+0.0dB
SIDE LEFT	+0.0dB
SUB (MONO)*	+0.0dB
SUB RIGHT	N/A
LFE	N/A

Note:

It is possible to manually select a parameter just as the unit is about to automatically scroll to that parameter. This might cause the unit to send the noise signal to both outputs. If this occurs, reselect the desired output.

4. When the graph appears, press the up and down MENU arrows to increase and decrease the setting in 0.5dB increments. Adjust all output levels to achieve a 75dB reading on the SPL meter from the primary listening position.

5. When the desired setting has been entered, press the left MENU arrow to close the graph and return to the SPEAKER LEVEL ADJUST menu. The INTERNAL NOISE TEST will continue, and automatic scrolling will resume.

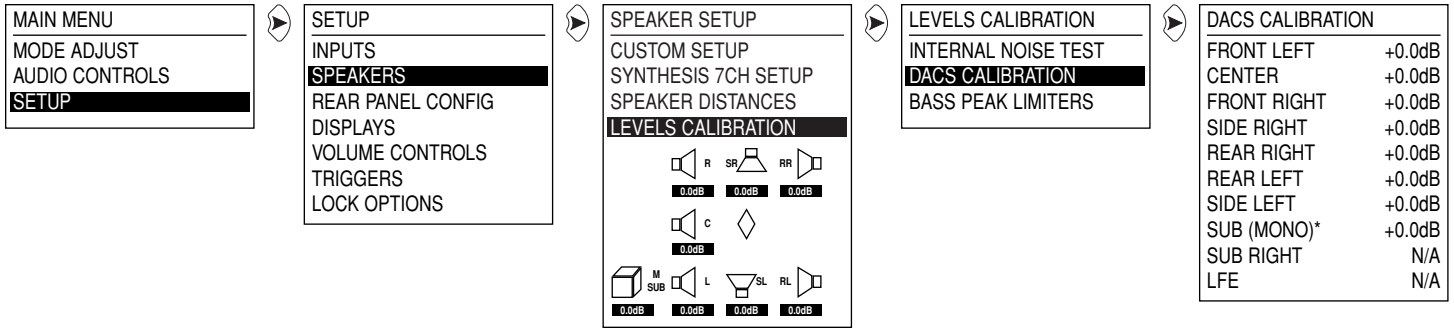
Note:

Outputs that are set to NONE on the CUSTOM SETUP menu cannot be adjusted during the INTERNAL NOISE TEST. These outputs can be adjusted during DACs calibration, but this is not recommended.

DACS CALIBRATION

Selecting the DACS CALIBRATION option accesses the DACS CALIBRATION menu (shown on the next page), which can be used to manually adjust output levels. DACS CALIBRATION requires an external noise source. In JBL Synthesis systems, this source is the JBL Digital Acoustical Calibration System (DACS®). However, an alternate source such as an audio calibration disc can also be used. As the noise test is conducted, the SDP-40 loads the DOLBY PRO LOGIC II, DOLBY DIGITAL, or dts(-ES) listening mode using the signal from the DACS® calibration system or audio calibration disc.

. . . LEVELS CALIBRATION and DACS CALIBRATION continue on page 3-40



LEVELS CALIBRATION *(continued from page 3-39)*

SETUP ▶ SPEAKERS ▶ LEVELS CALIBRATION

DACS CALIBRATION *(continued from page 3-39)*

For example, an analog or PCM input source is coming into the unit when DACS CALIBRATION is conducted, the unit will activate the DOLBY Pro Logic II listening mode. If a Dolby Digital input source is coming in, the unit will activate the DOLBY DIGITAL listening mode. And if a dts(-ES) input source is coming in, the unit will activate the dts(-ES) listening mode. When DACS CALIBRATION is selected, these listening modes will retain their factory-default settings. The unit will temporarily disregard customized listening mode settings.

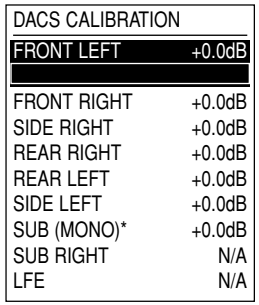
For system optimization using DACS® and a JBL Synthesis Digital Equalizer, connect the left and right RCA outputs of the DACS® signal generator (EVP-1) to the ANALOG-1 input (which is active in the TAPE input) and set the front panel volume level to 0dB. This will provide the correct signal path and reference output level.

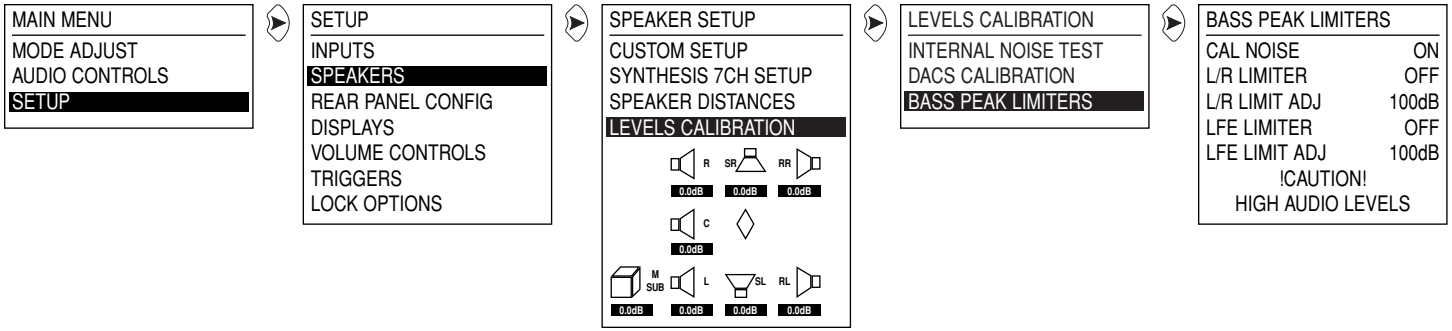
To manually adjust output levels on the DACS CALIBRATION menu:

1. Set the SPL meter according to the DACS® Installers Manual or audio calibration disc instructions. If no setting is recommended, set the SPL meter to "C" weighting and "SLOW" response.

2. Press the up and down MENU arrows on the remote control to scroll upward and downward through the complete list of parameters.

3. Press the right MENU arrow to manually select the highlighted parameter. Selecting the highlighted parameter accesses the horizontal graph shown at the right, which illustrates the position at which the current setting falls within the -18 to +12dB range.





4. When the graph appears, press the up and down MENU arrows to increase and decrease the setting in 0.5dB increments. Adjust all output levels to achieve the appropriate reading on the SPL meter from the primary listening position.

5. When the desired setting has been entered, press the left MENU arrow to close the graph and return to the DACS CALIBRATION menu.

> ***Note:***
>
> *SDP-40 Balanced output levels must be recalibrated when output connections are changed from unbalanced to balanced or vice versa. The balanced outputs are approximately 6dB louder than the unbalanced outputs.*

BASS PEAK LIMITERS

Selecting the BASS PEAK LIMITERS option accesses the BASS PEAK LIMITERS menu (shown on the next page, which contains parameters that can be used to control sub limiters. Dolby Digital and dts(-ES) input sources sometimes produce low-frequency peaks at much higher levels than 2-channel input sources. In home listening spaces, the subwoofer and its associated amplifier are sometimes unable to reproduce these levels without overloading.

For this reason, the unit is equipped with internal sub limiters that prevent subwoofer signals from exceeding a designated value. These limiters can be adjusted within a 75 to 115dB range. Separate limiters are provided for the SUBWOOFER L/R and LFE outputs.

Parameter	Default Value	Values
CAL NOISE	ON	ON, OFF
L/R LIMITER	OFF	ON, OFF
L/R LIMIT ADJ	100dB	75 to 115dB
LFE LIMITER	OFF	ON, OFF
LFE LIMIT ADJ	100dB	75 to 115dB

. . . LEVELS CALIBRATION and BASS PEAK LIMITERS continue on page 3-42

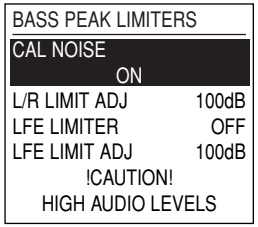
LEVELS CALIBRATION *(continued from page 3-41)*

SETUP ▶ SPEAKERS ▶ LEVELS CALIBRATION

BASS PEAK LIMITERS *(continued from page 3-41)*

> ***Note:***
>
> *The L/R LIMITER parameter should be set to OFF when the left and right subwoofers have built-in limiter protection. The LFE LIMITER parameter should be set to OFF when the LFE subwoofer has built-in limiter protection.*

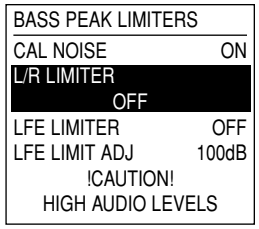
CAL NOISE (ON, OFF)



Determines whether limiters will be set using an internal or external noise signal. Selecting the CAL NOISE parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the ON and OFF settings. Press the left MENU arrow to select the current setting.

When set to ON, the unit activates the internal calibration noise to set sub limiters. When set to OFF, the unit deactivates the internal calibration noise. An audio calibration disc is required to set sub limiters.

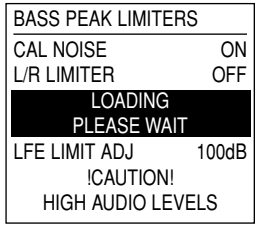
L/R LIMITER (ON, OFF)



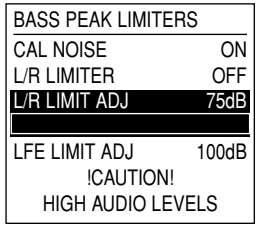
Controls the restriction of the SUBWOOFER L/R outputs and other MAIN AUDIO OUTPUTS to which low-frequency signals are redirected. Selecting the L/R LMIITER parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the ON and OFF settings. Press the left MENU arrow to select the current setting.

When set to ON, the unit restricts the level of the outputs specified above to the limit set in the L/R LIMIT ADJ parameter. When set to OFF, the unit does not restrict the level of these outputs. The L/R LIMITER parameter should be set to OFF when the left and right subwoofers have built-in limiter protection.

L/R LIMIT ADJ (75 to 115dB)



Specifies the output level restriction placed on the SUBWOOFER L/R outputs and other MAIN AUDIO OUTPUTS to which low-frequency signals are redirected. Selecting the L/R LIMIT ADJ parameter prompts the appearance of the message shown at the right (top), then accesses the horizontal bar graph shown at the right (bottom).

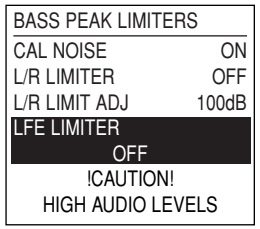


The horizontal bar graph illustrates the position at which the current setting falls within the 75 to 115dB parameter range. (When selected, the L/R LIMIT ADJ parameter is automatically set to 75dB.)

When the graph appears, press the up and down MENU arrows on the remote control to increase and decrease the setting in 1dB increments. Gradually increase the setting until the subwoofer begins to overload, then reduce the setting until the subwoofer stops overloading. Press the left MENU arrow to close the graph and return to the BASS PEAK LIMITERS menu.

LFE LIMITER (ON, OFF)

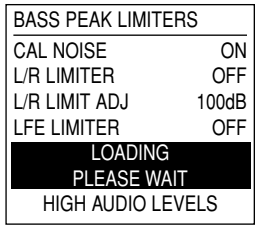
Controls the restriction of the LFE output. Selecting the LFE LMIITER parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the ON and OFF settings. Press the left MENU arrow to select the current setting.



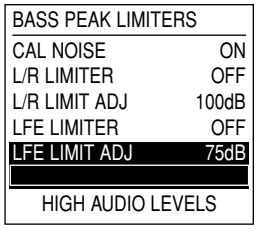
When set to ON, the unit restricts the level of the LFE output to the limit set in the LFE LIMIT ADJ parameter. When set to OFF, the unit does not restrict the level of the LFE output. The LFE LIMITER parameter should be set to OFF when the left and right subwoofers have built-in limiter protection.

LFE LIMIT ADJ (75 to 115dB)

Specifies the output level restriction placed on the LFE output. Selecting the LFE LIMIT ADJ parameter prompts the appearance of the message shown at the right (top), then accesses the horizontal bar graph shown at the top of the next column.



The horizontal bar graph illustrates the position at which the current setting falls within the 75 to 115dB parameter range. (When selected, the LFE LIMIT ADJ parameter is automatically set to 75dB.)



When the graph appears, press the up and down MENU arrows on the remote control to increase and decrease the setting in 1dB increments. Gradually increase the setting until the subwoofer begins to overload, then reduce the setting until the subwoofer stops overloading. Press the left MENU arrow to close the graph and return to the BASS PEAK LIMITERS menu.

REAR PANEL CONFIG

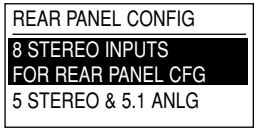
SETUP ▶ REAR PANEL CONFIG

Selecting the REAR PANEL CONFIG option on the SETUP menu accesses the REAR PANEL CONFIG menu, which can be used to configure AUDIO INPUT pairs 1 to 8 on the rear panel. These inputs can be configured to function as eight stereo analog input pairs, or as five stereo analog input pairs and one 5.1 analog input.

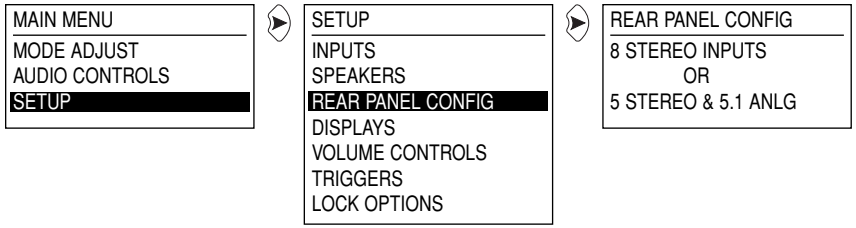
8 STEREO INPUTS

SETUP ▶ REAR PANEL CONFIG ▶ 8 STEREO INPUTS

Selecting the 8 STEREO INPUTS option prompts the appearance of the message shown at the right, which confirms that AUDIO INPUTS have been configured as eight stereo analog input pairs. This is the default rear panel configuration.



. . . 8 STEREO INPUTS continues on page 3-44

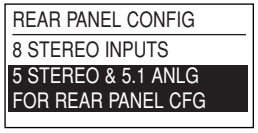


8 STEREO INPUTS *(continued from page 3-43)*

When this configuration is selected, pairs 6, 7, and 8 are not available as a 5.1 analog input. Input sources assigned to the 5.1 analog input will be reassigned to stereo input Pair 6.

5 STEREO & 5.1 ANLG

SETUP ▶ **REAR PANEL CONFIG** ▶ **5 STEREO & 5.1 ANLG**



Selecting the 5 STEREO & 5.1 ANLG option prompts the appearance of the message shown at the right, which confirms that the AUDIO INPUTS have been configured as five stereo analog input pairs and one 5.1 analog input. The 5.1 analog input consists of AUDIO INPUT pairs 6, 7, and 8.

Pair 6 becomes the front left and right (L)/(R) inputs. Pair 7 becomes the center (C) and subwoofer (SUB) inputs. And Pair 8 becomes the surround left and right (LS)/(RS) inputs. Input sources assigned to stereo analog input pairs 6, 7, and 8 will be reassigned to the 5.1 analog input.

When this configuration is selected for the Main Zone, input signals are sent to the corresponding outputs. When this configuration is selected for Zone 2 or the Record Zone, only the front left and right (L)/(R) input signals are sent to the outputs. This is because neither Zone 2 nor the Record Zone provide multi-channel outputs.

Note:

When the 5.1 analog input is selected:

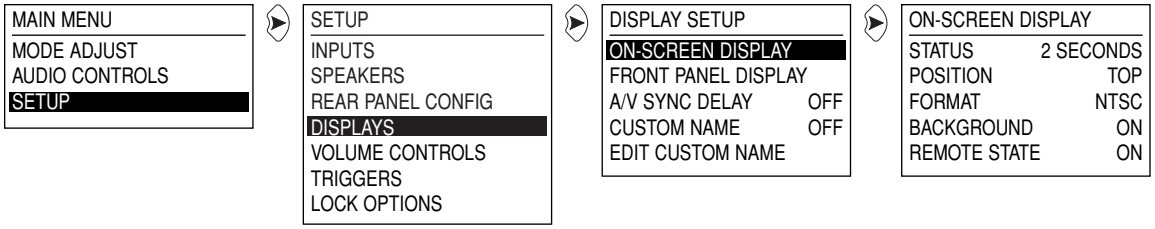
- *Output signals will not be redirected to other channels when the corresponding speaker parameters on the CUSTOM and SYNTHESIS 7CH SETUP menus are set to NONE or OFF.*

- *It is not possible to record from an analog input source to the RECORD AUDIO OUTPUT labeled S/PDIF when the 5.1 analog input is selected for the Main Zone.*

DISPLAYS

SETUP ▶ **DISPLAYS**

Selecting the DISPLAYS option on the SETUP menu accesses the DISPLAY SETUP menu, which contains options and parameters that can be used to adjust the on-screen and front panel displays, audio-video synchronization, and custom unit name.

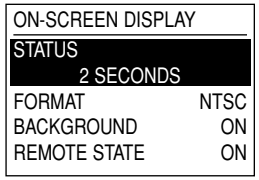


ON-SCREEN DISPLAY

SETUP ▶ DISPLAYS ▶ ON-SCREEN DISPLAY

Parameter	Default Value	Values
STATUS	2 SECONDS	ALWAYS ON, 2 SECONDS, ALWAYS OFF
POSITION	TOP	TOP, CENTER, BOTTOM
FORMAT	NTSC	NTSC, PAL, SECAM
BACKGROUND	ON	ON, OFF
REMOTE STATE	ON	ON, OFF

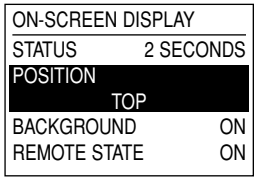
STATUS (ALWAYS ON, 2 SECONDS, ALWAYS OFF)



Activates and deactivates the on-screen display, provided the display device is using the MAIN VIDEO OUTPUT labeled 1 (OSD). Selecting the STATUS parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to scroll through the ALWAYS ON, 2 SECONDS, and ALWAYS OFF settings. Press the left MENU arrow to select the current setting.

When set to ALWAYS ON, the on-screen display remains on at all times. When set to 2 SECONDS, the on-screen display appears for two seconds when the unit receives a command or the input source changes. When set to ALWAYS OFF, the on-screen display remains off at all times.

POSITION (TOP, CENTER, BOTTOM)



Controls the vertical position of the two-line status on the display device. Selecting the STATUS parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to scroll through the TOP, CENTER, and BOTTOM settings. Press the left MENU arrow to select the current setting.

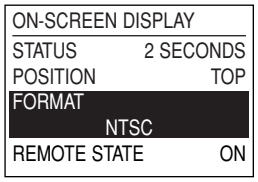
When set to TOP, the two-line status appears near the top of the display device screen. When set to CENTER, the two-line status is centered on the display device screen. This setting is recommended when the top and bottom of the on-screen display appears cropped (not visible). When set to BOTTOM, the two-line status appears near the bottom of the display device screen.

. . . ON-SCREEN DISPLAY continues on page 3-46

ON-SCREEN DISPLAY *(continued from page 3-45)*

SETUP ▶ DISPLAYS ▶ ON-SCREEN DISPLAY

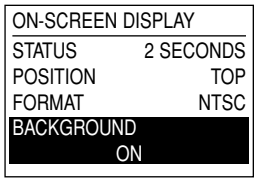
FORMAT (NTSC, PAL, SECAM)



Controls the compatibility of the video switcher and on-screen display. Selecting the FORMAT parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to scroll through the SECAM, PAL, and NTSC settings. Press the left MENU arrow to select the current setting.

The three parameter settings make the video switcher and on-screen display compatible with NTSC, PAL, or SECAM formats. The appropriate setting varies from country to country. Consult the display device user guide to determine the correct setting.

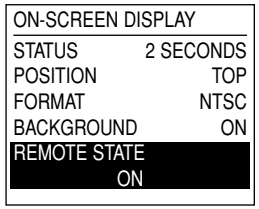
BACKGROUND (ON, OFF)



Activates and deactivates the menu background. Selecting the BACKGROUND parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the ON and OFF settings. Press the left MENU arrow to select the current setting.

When set to ON, the on-screen menus appear over a solid blue or grey background. When set to OFF, these menus appear over video input signal. Setting this parameter to OFF will automatically deactivated the on-screen display if the display device is using the COMPONENT VIDEO OUTPUT.

REMOTE STATE (ON, OFF)



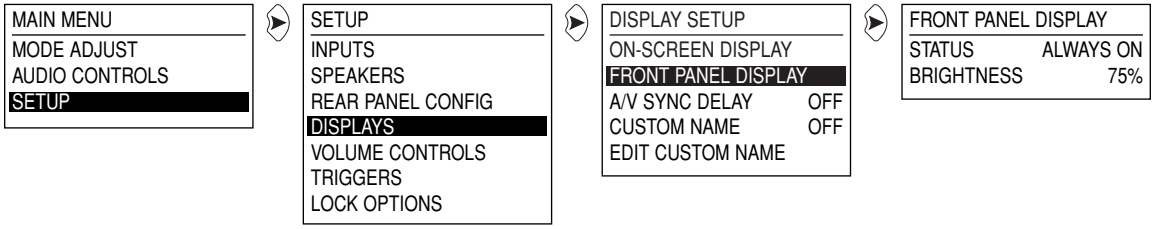
Controls whether or not the active remote control command bank is indicated on the on-screen display. Selecting the REMOTE STATE parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the ON and OFF settings. Press the left MENU arrow to select the current setting.

When set to ON, the active remote control command bank is indicated in the top-right corner of the on-screen display. See page 2-8 for more information. When set to OFF, the active remote control command bank is not indicated on the on-screen display.

FRONT PANEL DISPLAY

SETUP ▶ DISPLAYS ▶ FRONT PANEL DISPLAY

Parameter	Default Value	Values
STATUS	ALWAYS ON	ALWAYS ON, 2 SECONDS, ALWAYS OFF
BRIGHTNESS	75%	100%, 75%, 50%, 25%

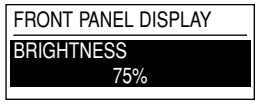


STATUS (ALWAYS ON, 2 SECONDS, ALWAYS OFF)

Activates and deactivates the front panel display. Selecting the STATUS parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to scroll through the ALWAYS ON, 2 SECONDS, and ALWAYS OFF settings. Press the left MENU arrow to select the current setting.

When set to ALWAYS ON, the front panel display remains on at all times. When set to 2 SECONDS, the front panel display appears for two seconds when the unit receives a command or the input source changes. When set to ALWAYS OFF, the front panel display remains off at all times.

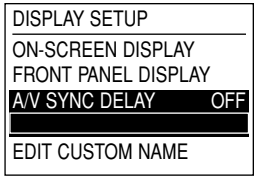
BRIGHTNESS (100%, 75%, 50%, 25%)



Adjusts the brightness of the front panel display. Selecting the BRIGHTNESS parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to scroll through the 25%, 50%, 75%, and 100% settings. Press the left MENU arrow to select the current setting. The front panel display will adjust accordingly when a setting is selected.

A/V SYNC DELAY (OFF, 1 to 60ms)

SETUP ▶ **DISPLAYS** ▶ **A/V SYNC DELAY**

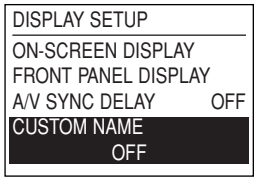


Synchronizes the delay time between audio and vido signals. Selecting the A/V SYNC DELAY parameter accesses the horizontal bar graph shown at the right, which illustrates the position at which the current setting falls within the OFF to 60ms parameter range. When the graph appears, press the up and down MENU arrows on the remote control to increase and decrease the setting in 1dB increments. Press the left MENU arrow to close the graph and return to the DISPLAY SETUP menu.

This parameter is useful with video processors or line scalers. These products introduce a delay in the video signal, which causes the audio and video signals to become unsynchronized in the system. Setting a corresponding audio delay with this parameter restores synchronization.

CUSTOM NAME

SETUP ▶ **DISPLAYS** ▶ **CUSTOM NAME**

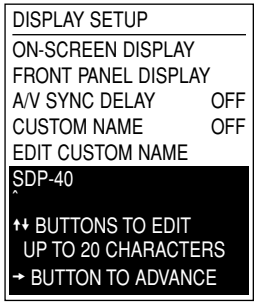


Controls the appearance of the custom unit name when the unit is powered on. Selecting the CUSTOM NAME parameter accesses the pulldown menu shown at the right. When this pulldown menu appears, press the up and down MENU arrows on the remote control to toggle between the ON and OFF settings. Press the left MENU arrow to select the current setting.

When set to ON, the custom name scrollS across the on-screen and front panel displays when the unit is powered on. When set to OFF, the custom name will not appear when the unit is powered on. The custom unit name can be entered in the EDIT CUSTOM NAME parameter (see below).

EDIT CUSTOM NAME

SETUP ▶ **DISPLAYS** ▶ **EDIT CUSTOM NAME**



Selecting the EDIT CUSTOM NAME option accesses the pulldown menu shown at the right, which can be used to create a custom name for the unit. The current name of the unit appears on the second line of the pulldown menu, beneath the EDIT CUSTOM NAME header.

When the pulldown menu appears, press the up and down MENU arrows on the remote control to change the character above the ^, and the right MENU arrow to advance to the next character. The ^ will automatically wrap to the first character space after the twentieth character space is passed.

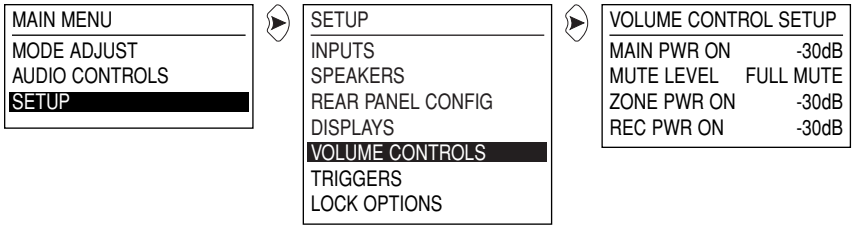
When the desired name has been entered, press the left MENU arrow to close the pulldown menu. The custom unit name will scroll across the on-screen and front-panel displays when the unit is powered on, provided the CUSTOM NAME parameter is set to ON.

VOLUME CONTROLS

SETUP ▶ **VOLUME CONTROLS**

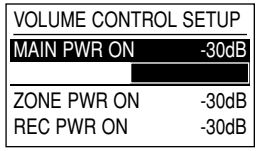
Selecting the VOLUME CONTROLS option on the SETUP menu accesses the VOLUME CONTROL SETUP menu, which contains parameters that can be used to adjust volume setup in the Main Zone, Zone 2, and the Record Zone.

Parameter	Default Value	Values
MAIN PWR ON	-30dB	LAST LVL, -80 to +6dB
MUTE LEVEL	FULL	FULL, -40dB, -30dB, -20dB, -10dB
ZONE PWR ON	-30dB	LAST LVL, -80 to +6dB
REC PWR ON	-30dB	LAST LVL, -80 to +6dB



To select the desired parameter on the VOLUME CONTROL SETUP menu:

- Press the up and down MENU arrows on the remote control to scroll upward and downward through the complete list of parameters.
- Press the right MENU arrow to select the highlighted parameter. This accesses the horizontal bar graph similar to the one shown at the right, which illustrates the position at which the current setting falls within the parameter range.



- When the graph appears, press the up and down MENU arrows to increase and decrease the setting in 1dB increments.
- Press the left MENU arrow to accept the desired setting and return to the VOLUME CONTROL SETUP menu

MAIN PWR ON LAST LVL, -80 to +6dB

Establishes the volume level that will be active in the Main Zone whenever the unit is powered on. When set to LAST LVL, the Main Zone will power on at the last volume level that was active in that zone during the previous operating session.

MUTE LEVEL (FULL, -40dB, -30dB, -20dB, -10dB)

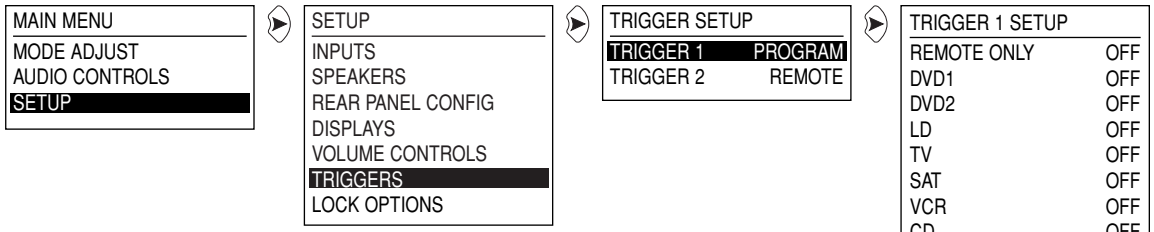
Establishes the amount of attenuation that occurs in the Main Zone whenever the Mute button is pressed. When set to FULL, the Main Zone volume level will be fully attenuated.

ZONE PWR ON (LAST LVL, -80 to +6dB)

Establishes the volume level that will be active in Zone 2 whenever the unit is powered on. When set to LAST LVL, Zone 2 will power on at the last volume level that was active in that zone during the previous operating session.

REC PWR ON (LAST LVL, -80 to +6dB)

Establishes the volume level that will be active in the Record Zone whenever the unit is powered on. When set to LAST LVL, the Record Zone will power on at the last volume level that was active in that zone during the previous operating session.



TRIGGER SETUP

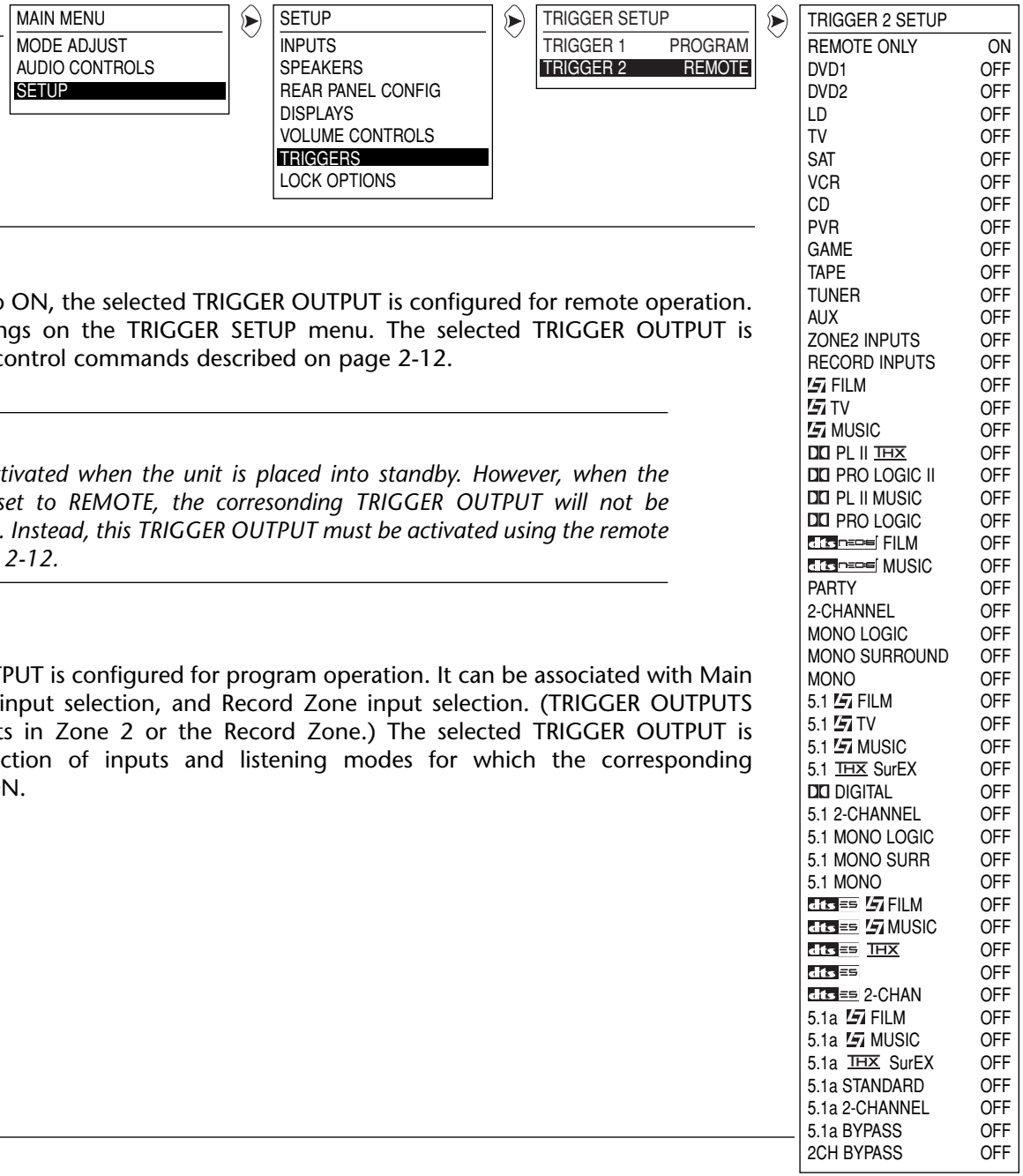
SETUP ▶ **TRIGGERS**

Selecting the TRIGGERS option on the SETUP menu accesses the TRIGGER SETUP menu, which prompts the selection of the desired TRIGGER for configuration. There are three 12V DC TRIGGER OUTPUTS on the rear panel that can be used to control other devices with compatible trigger inputs. The TRIGGER OUTPUT labeled PWR is not configurable. It is on when the unit is powered on, and off when the unit is placed in standby or powered off. The TRIGGER OUTPUTS labeled 1 and 2 are configurable.

Selecting a trigger accesses the corresponding TRIGGER SETUP menu, which can be used to configure the selected TRIGGER OUTPUT for REMOTE or PROGRAM operation. Both the TRIGGER 1 and TRIGGER 2 SETUP menus are shown on the next page.

To select the desired parameter on the TRIGGER SETUP menu:

- Press the up and down MENU arrows on the remote control to scroll upward and downward through the complete list of parameters.
- Press the right MENU arrow to select the highlighted parameter, then use the up and down MENU arrows to toggle between the ON and OFF settings.
- Press the left MENU arrow to accept the desired parameter and return to the TRIGGER SETUP menu.



REMOTE OPERATION

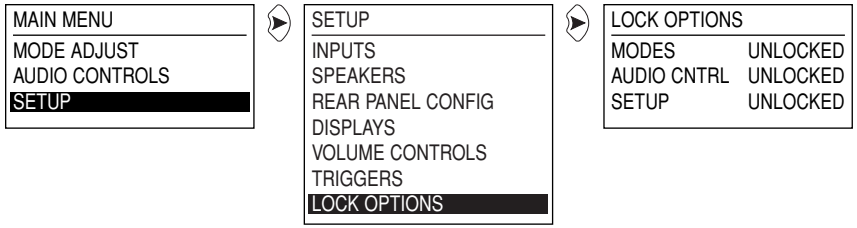
When the REMOTE ONLY parameter is set to ON, the selected TRIGGER OUTPUT is configured for remote operation. The unit ignores all other parameter settings on the TRIGGER SETUP menu. The selected TRIGGER OUTPUT is activated and deactivated with the remote control commands described on page 2-12.

Note:

The TRIGGER OUTPUTS will be deactivated when the unit is placed into standby. However, when the TRIGGER 1 and 2 parameters are set to REMOTE, the corresonding TRIGGER OUTPUT will not be activated when the unit is powered on. Instead, this TRIGGER OUTPUT must be activated using the remote control commands described on page 2-12.

PROGRAM OPERATION

When set to OFF, the selected TRIGGER OUTPUT is configured for program operation. It can be associated with Main Zone inputs and listening modes, Zone 2 input selection, and Record Zone input selection. (TRIGGER OUTPUTS cannot be associated with individual inputs in Zone 2 or the Record Zone.) The selected TRIGGER OUTPUT is activated and deactivated upon the selection of inputs and listening modes for which the corresponding TRIGGER SETUP menu parameter is set to ON.



LOCK OPTIONS

SETUP ▶ LOCK OPTIONS

Selecting the LOCK OPTIONS option on the SETUP menu accesses the LOCK OPTIONS menu, which can be used to lock and unlock settings in the three menu branches: MODE ADJUST, AUDIO CONTROLS, and SETUP. Locking settings in these menu branches prevents accidental changes.

To select the desired parameter on the LOCK OPTIONS menu:

- Press the up and down MENU arrows on the remote control to scroll upward and downward through the complete list of parameters.
- Press the right MENU arrow to select the highlighted parameter, which accesses a pulldown menu similar to the one shown at the right.
- When the pulldown menu appears, press the up and down MENU arrows to toggle between the LOCKED and UNLOCKED settings.
- Press the left MENU arrow to accept the desired parameter and return to the LOCK OPTIONS menu

Parameter	Default Value	Values
MODES	UNLOCKED	LOCKED, UNLOCKED
AUDIO CNTRL	UNLOCKED	LOCKED, UNLOCKED
SETUP	UNLOCKED	LOCKED, UNLOCKED

MODES (LOCKED, UNLOCKED)

Controls settings in the MODE ADJUST menu branch. When set to LOCKED, these settings cannot be adjusted. When set to UNLOCKED, these settings can be adjusted.

AUDIO CNTRL (LOCKED, UNLOCKED)

Controls settings in the AUDIO CONTROLS menu branch. When set to LOCKED, these settings cannot be adjusted. When set to UNLOCKED, these settings can be adjusted.

SETUP (LOCKED, UNLOCKED)

Controls settings in the SETUP menu branch. When set to LOCKED, these settings cannot be adjusted. When set to UNLOCKED, these settings can be adjusted.